Volume I

Executive Summary
of the
Final
Environmental Impact Statement for
Activities Associated with Future Programs at
U.S. Army Dugway Proving Ground

U.S. Army Dugway Proving Ground
Dugway, UT 84022-5000

April 30, 2003

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List of Abbreviations/Acronyms

ACWA	Assembled Chemical Weapons Assessment
AF	Air Force
AR	Army Regulation
Army	U. S. Army
ATEC	U.S. Army Test and Evaluation Command
Avery	Avery Technical Center
Baker	Baker Area
BL	biosafety level
BLM	Bureau of Land Management
BMTF	Bushnell Materiel Test Facility
BWC	Biological Weapons Convention
CAA	Clean Air Act
Carr	Carr Facility
CBDP	Chemical and Biological Defense Program
CCTF	Reginald Kendall Combined Chemical Test Facility
CDC	Center for Disease Control
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHWSF	Central Hazardous Waste Storage Facility
cm	centimeter(s)
Co	county
CO	carbon monoxide
CWS	Chemical Warfare Service
DCP	Disaster Control Plan
DEIS	Draft EIS
DEP	Directorate of Environmental Programs
Ditto	Ditto Technical Center
DOD	Department of Defense
DPG	U.S. Army Dugway Proving Ground
DTC	Defensive Test Chamber
ECRT	Environmental Characterization and Remediation Technology
ENMP	Environmental Noise Management Plan
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ft	foot or feet
FUDS	Formerly Used Defense Sites
Future Programs EIS	Environmental Impact Statement for Activities Associated with Future Programs at U.S. Army Dugway Proving Ground
HAFB	Hill Air Force Base
HAP	hazardous air pollutant

HWMU	hazardous waste management unit
ICRMP	Integrated Cultural Resource Management Plan
INRMP	Integrated Natural Resource Management Plan
IPP	Intermountain Power Project
IRP	Installation Restoration Program
ITAM	Integrated Training Area Management
kg	kilogram(s)
km	kilometer(s)
lb	pound(s)
LSTF	Lothar Salomon Life Sciences Test Facility
m	meter(s)
MAAF	Michael Army Airfield
mi	mile(s)
MSL	mean sea level
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NEPA	National Environmental Policy Act
NG	National Guard
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOI	Notice of Intent
NRHP	National Register for Historic Places
OB/OD	Open Burn/Open Detonation
ODOBi	Open Detonation/Open Burn, Improved
PM_{10}	particulate matter less than 10 microns
RANS	Range Control Squadron
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SAM	Surface-to-Air Missile
SAMS	Surface Atmospheric Measurement System
SDP	Summary Development Plan
SLTEST	Surface Layer Turbulence and Environmental Sciences Test
sq	square
SR	State Road
UDAQ	Utah Division of Air Quality
U.S.	United States
UTTR	Utah Test and Training Range
WDTC	West Desert Test Center

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ES – 1.0 Introduction

The Environmental Impact Statement for Activities Associated with Future Programs at U.S. Army Dugway Proving Ground (Future Programs EIS) has been prepared by the U.S. Army Dugway Proving Ground (DPG) for decision makers at DPG and to inform the public (i.e., stakeholders) of these planned activities.

The Future Programs EIS addresses the planned mission at DPG, the reasonable alternatives to the planned mission, and potential environmental impacts of DPG's future operations.

The future mission assessed in this EIS consists of those mission and support activities planned or anticipated to be conducted at DPG during the next 7 years. The EIS has been prepared according to the requirements of the National Environmental Policy Act (NEPA) of 1969, which requires consideration of environmental impacts in Federal agency decision-making.

DPG is a Department of Defense (DOD) Major Range and Test Facility Base operated by the U.S. Army Developmental Test Command, which is a major subordinate command of the Army Test and Evaluation Command (ATEC). DPG encompasses 3,234 square (sq) kilometers (km) (798,855 acres) located in western Utah, approximately 129 km (80 miles (mi)) southwest of Salt Lake City, UT. DPG's location is identified on Figure ES – 1, DPG Location Map.

DPG is the only U.S. Army (Army) installation large and remote enough to permit comprehensive and realistic testing of biological and chemical defense systems, munitions, and smokes, obscurants, and illuminants with a commitment to environmental protection and personal and public safety.

An understanding of the terms "chemical and biological agent" and "chemical and biological simulant" is essential to the understanding of DPG's mission and this EIS. The term chemical agent is used in the Future Programs EIS to mean a chemical substance intended for use in military operations to kill, seriously injure, or incapacitate persons through its physiological effects. The term biological agent is used in the EIS to mean a pathogenic microorganism, and any naturally occurring, genetically manipulated, or synthesized component of biological origin that is capable of causing:

- Death, disease, or other biological malfunction in humans, animals, or plants
- Deterioration of food, water, equipment, or supplies

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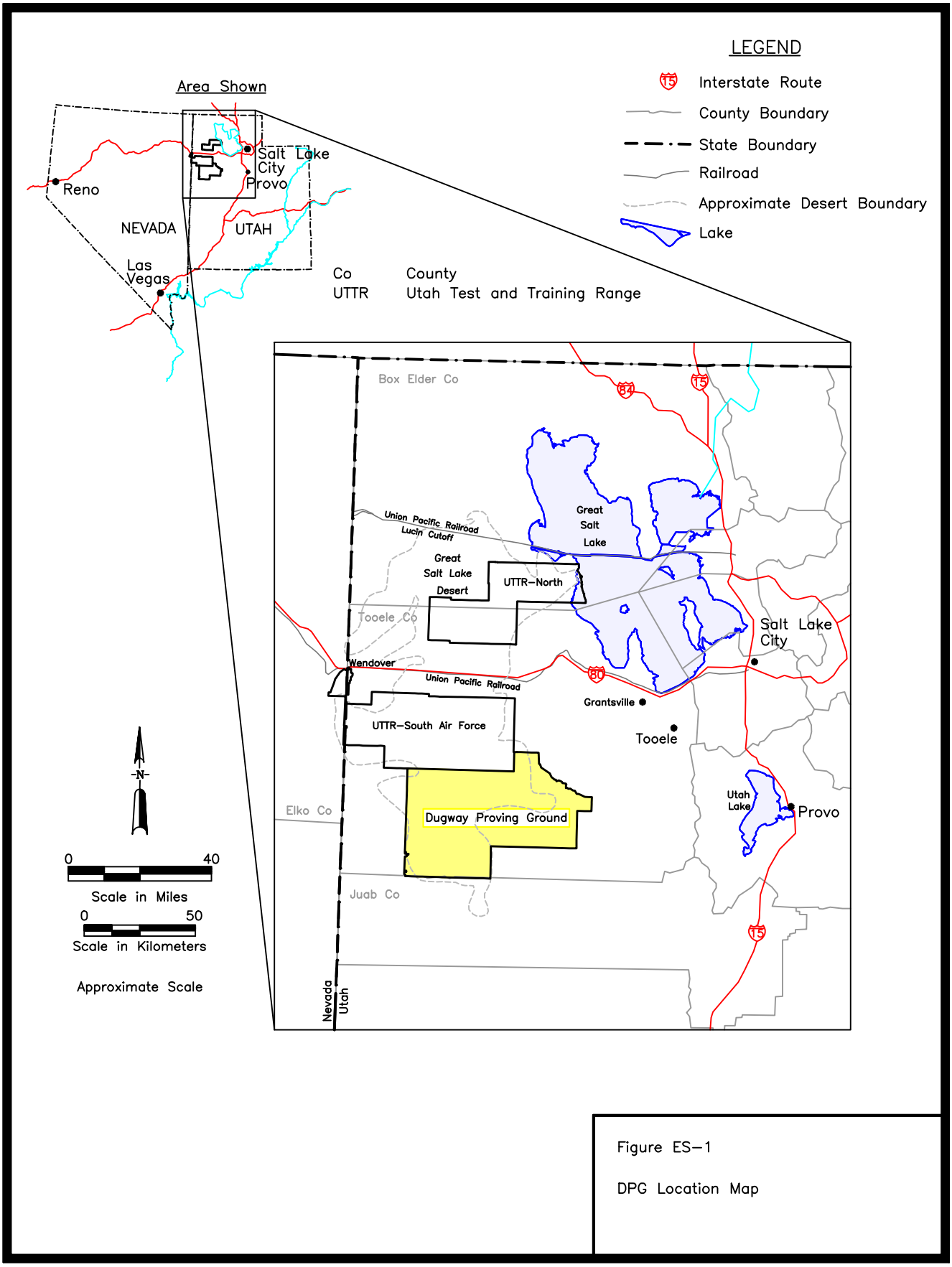

Figure ES–1

DPG Location Map

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The term chemical simulant is used in the EIS to mean a chemical substance that shares at least one characteristic of a chemical agent but with a reduced physiological effect. The term biological simulant is used in the EIS to mean a biological substance, or microorganism that shares at least one physical or biological characteristic of a biological agent, has been shown to be non-pathogenic, and can be used for biological defense testing to replace the agent under study.

In addition to its testing programs, DPG performs an important role in training DOD active and reserve components to ensure defense readiness.

ES – 1.1 Proposed Action

The Proposed Action described and evaluated in the Future Programs EIS is the implementation of DPG's planned mission for a 7-year time frame. This mission includes:

- Continuing baseline mission components of testing, technology development, and training with increases in most activity areas
- Implementing plans for diversification of operations
- Implementing a Summary Development Plan (SDP) identifying real property planning recommendations for DPG

Three alternatives to the Proposed Action are also described and evaluated, including a "no action alternative," required by regulations implementing NEPA. The Proposed Action and alternatives are summarized in Section ES – 2.0, Baseline Activities, Proposed Action, and Alternatives.

The Proposed Action is DPG's preferred alternative. The preferred alternative is the alternative identified by DPG as the lead agency that it believes would best fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors. The Proposed Action or any action alternative cannot be implemented until completion of the NEPA review process.

ES – 1.2 Purpose and Need for Action

The purpose of this EIS is to analyze and disclose the potential environmental impacts of the Proposed Action and alternatives in compliance with NEPA requirements. The Future Programs EIS is an installation-wide EIS that evaluates the interaction of the numerous activities and programs at DPG, rather than focusing on individual impacts of specific activities and programs. The Future Programs EIS also provides environmental analysis for implementation of the SDP.

DPG's large size, remoteness, and its extensive range infrastructure combine to offer an attractive test, technology development, and training site. DOD customers include all military branches within DOD. DPG is expanding services to existing customers, such as international military and Federal agencies, and is increasingly serving the needs of non-DOD customers such as the U.S. Department of Energy, U.S. Department of Justice, National Aeronautics and Space Administration (NASA), private entities, and academia requiring test, technology development, and training services.

Both DOD and non-DOD customers are posing challenges for DPG to support greater numbers of tests and training events related to new enemy threats, next generation materiel, advanced conventional weapon systems, environmental concern, and demilitarization technologies. The Proposed Action is needed to enable DPG to effectively respond to the challenges of a growing and diversified mission.

DPG's goals in preparing this Future Programs EIS are to:

- **Maintain compliance with NEPA**
- **Evaluate the potential environmental impacts of the Proposed Action and alternatives**
- **Improve and coordinate DPG plans to fulfill its mission while protecting human health, sustaining its environment, and maintaining regulatory compliance**
- **Document known installation-wide existing environmental conditions**
- **Facilitate cost-effectiveness of future DPG NEPA documents by tiering, which is the process of covering a topic in a broad-scope document with further narrow-scope document(s) covering the topic more precisely**
- **Assess the potential cumulative impacts to the environment from all DPG activities and other regional activities**

ES – 1.3 Scope of the EIS

The 7-year time frame for consideration of future programs in the Future Programs EIS ensures that the general type and intensity of most of DPG's future activities will be addressed. A range of factors such as future technology developments, available budgets, and changing defense threats often alter test plans.

The Proposed Action within this EIS includes only those activities that are reasonably foreseeable and for which DPG is the proponent or can make a decision about the activity. Specific program designations and equipment/materials to be tested may change between the time that this EIS is prepared, and the actual test date. Accordingly, this EIS identifies the general characteristics of reasonably foreseeable test programs, rather than providing definitive and specific test information. It is likely that mission activities could occur at DPG over the next 7 years that cannot be identified in this EIS. Additional NEPA documentation would be provided in the future for these unforeseen activities.

Identified potential environmental impacts occurring beyond the installation boundaries have been evaluated with potential cumulative impacts from other regional activities in Section ES – 5.0, Cumulative Impacts. Where impacts from regional activities outside DPG have the potential to affect DPG, these impacts are also summarized as part of the cumulative impacts analysis.

The Future Programs EIS addresses both classified and nonclassified components of the DPG mission without distinction. No classified data are included in this EIS; however, the potential environmental impacts of classified mission activities are fully assessed, consistent with applicable military regulations.

The Proposed Action calls for implementation of an updated real property master plan. The Army considers "real property" to be permanent facilities such as structures, buildings, roads, and associated infrastructure. DPG has chosen to prepare an SDP to meet the real property master plan requirement for the EIS and to serve as a tool to analyze the installation's current and future planning needs. The SDP summarizes essential elements of the real property master plan, and describes existing conditions and provides an overview of future development. Proposed actions from the SDP are included in the Future Programs EIS Proposed Action.

ES – 1.4 DPG History

A wide variety of military operations has been conducted for nearly 60 years at DPG. Although this Future Programs EIS is concerned with the foreseeable future mission, knowledge of DPG's operational and facility history is essential to understanding the DPG environment.

DPG was established in 1942 with the entrance of the U.S. into World War II. The U.S. determined it was necessary to prepare for enemy chemical warfare capabilities because of the strength of the German and Italian chemical industries and the fact that these countries had used chemical weapons in World War I.

On February 6, 1942, President Franklin D. Roosevelt ordered the transfer of an initial 513 sq km (126,720 acres) of public domain land to the Chemical Warfare Service (CWS). Six days later, DPG was officially established. An additional 574 sq km (141,680 acres) of the public domain was withdrawn and transferred to the CWS in April 1942. Subsequent land withdrawals, transfers, and purchases of land have contributed to the installation area of approximately 3,234 sq km (798,855 acres).

Testing of military weapons commenced in the summer of 1942, and rapidly expanded in scope and intensity. Originally tasked as a testing ground for weapons, DPG was expanded to include laboratory facilities, housing, and administration buildings. Chemical weapons testing began in 1942, with full-scale testing using biological agents commencing in 1945. Several important military developments in modern warfare were tested at DPG during World War II, including incendiary bombs, flame throwers, and chemical and biological weapons. After World War II, DPG was placed on inactive status.

During the summer of 1950, DPG was reactivated in response to the Korean War. Work began on many activities originally commenced during World War II. New conventional weapon systems were tested. An intense period during the 1950s and 1960s ensued to conduct chemical, biological, and radiological defensive testing. In 1952, the Army constructed English Village, which remains the DPG administrative headquarters, residential area, and community center.

In September 1969, open-air testing of chemical and biological agents at DPG was suspended in anticipation of an international treaty.

On April 10, 1972 the U.S. signed the International Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxic Weapons and Their Destruction, known as the Biological Weapons Convention (BWC) treaty. The BWC treaty required signatories to execute "confidence building measures" aimed at increasing the confidence of signatories that the co-signatories were keeping control of their biological weapons systems in a way that avoided adverse human health effects and international security threats. Similarly, the Chemical Weapons Convention, which became enforceable under international law on April 29, 1997, prohibits the development, production, stockpiling, and use of chemical weapons and provides oversight for their destruction. Between 1972 and 1983, the intensity of testing of chemical and biological defenses decreased due to these treaties. However, at various times in DPG's recent history such as the 1991

Persian Gulf War, military testing of chemical and biological defenses has increased as a result of perceived chemical and biological threats.

Chemical and biological defense testing since 1969 has been conducted at DPG by the following two primary methods:

- In laboratory and large-scale chamber settings, using small amounts of chemical and biological agents to test the effectiveness of protection, detection, and decontamination equipment, and to test the effect of contamination and decontamination on the equipment under test
- In open-air situations, using chemical and biological simulants to test the performance of protection, detection, and decontamination equipment

Since 1969, all outdoor tests have used biological and chemical simulants instead of agents. This would continue under the Proposed Action.

DPG's modern era is also noted by programs for testing battlefield smokes and obscurants in which open-air release of these materials is conducted under varying atmospheric and battlefield test conditions. Within the past 15 years, the breadth and diversity of DPG's modern mission have expanded through an expanded mission and new tenant activities.

ES – 1.5 National Environmental Policy Act Review Process

The NEPA review process is intended to assist public decision makers by ensuring that potential environmental impacts are identified and considered in planning and implementing Federal actions. NEPA requires evaluation of all Federal actions that potentially affect the human and natural environment.

The NEPA review process begins with the responsible Federal agency, known as the proponent, identifying a specific proposed action. The Federal action related to this Future Programs EIS is the activity proposed to occur at DPG over the next 7 years. The project proponent for this EIS is DPG.

Except for certain actions routinely excluded from further evaluation, the proposed action is subjected to a structured analysis of potential environmental impacts. If environmental impacts of a proposed action are potentially significant, a decision to prepare an EIS is made. A Notice of Intent (NOI) to prepare an EIS is then developed and published in the *Federal Register*. The *Federal Register* is the government's publication that officially publishes all Federal notices. The EIS includes a thorough analysis of the context, intensity, and duration of the potentially significant environmental impacts of a proposed action and alternatives. The EIS

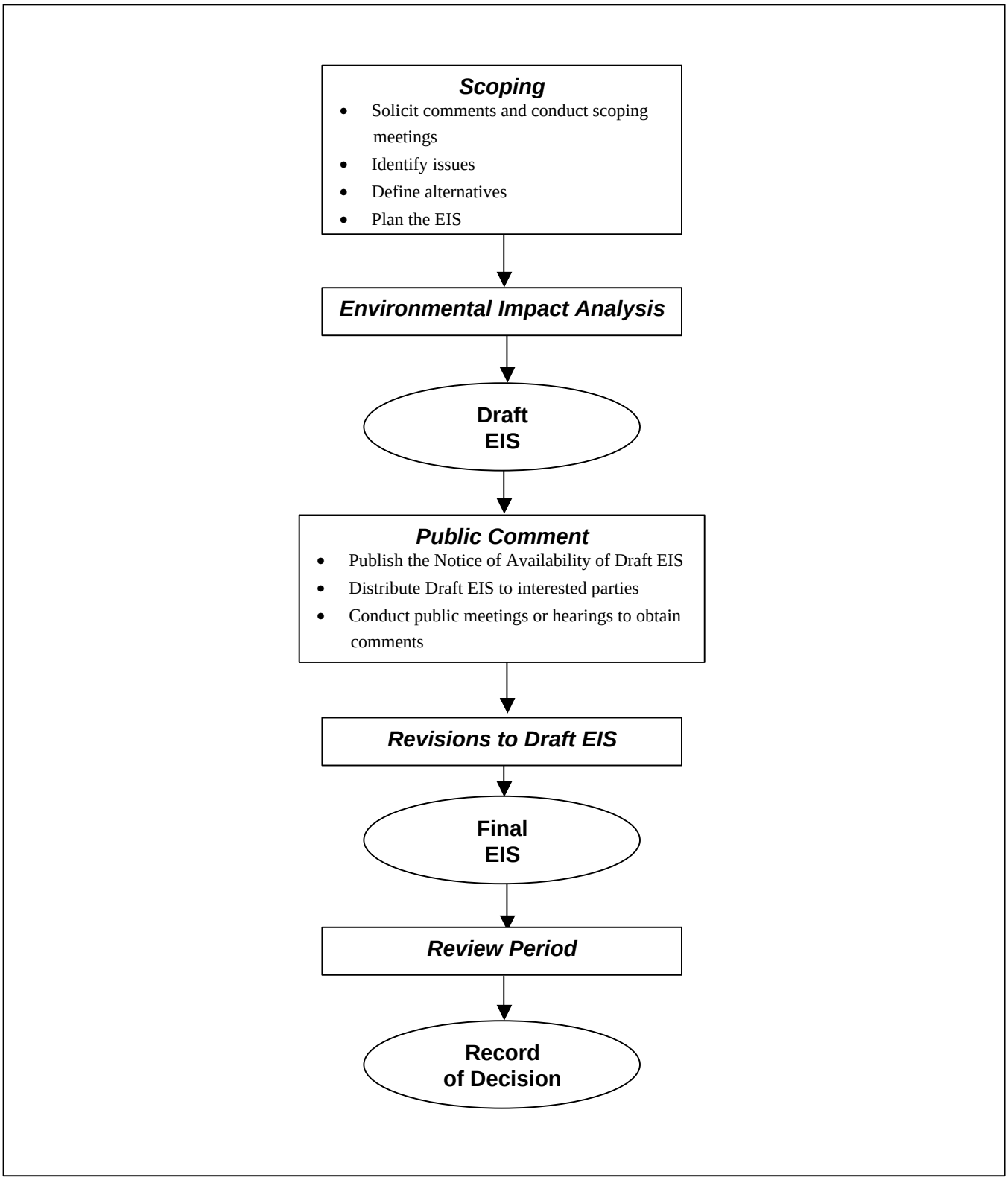
process, depicted in Figure ES – 2, Environmental Impact Statement Process, consists of the following phases after development of the proposed action and publication of the NOI.

- Scoping – This phase consists of open discussions with the public and concerned agencies about the EIS scope, proposed action, alternatives to the proposed action, procedural issues, further public involvement, and issues of concern.
- Environmental Impact Analysis – This step of the process consists of a scientific and systematic analysis of the potential environmental impacts resulting from implementation of the proposed action and alternatives. The results of the analysis are summarized in the Draft EIS (DEIS).
- DEIS – Release of the DEIS is the first public exposure to the analysis of the proposed action and alternatives. Availability of the DEIS is announced in the Federal Register through a Notice of Availability (NOA).
- Public Comment – A comment period follows the release of the DEIS to allow public input into the Final EIS. Public hearings or meetings may be held during the comment period to facilitate public input.
- Revisions to DEIS – Once public comments have been assessed, the DEIS may need to be revised to reflect the public's substantive comments and concerns. Documentation of public comments and any associated revisions to the DEIS will be incorporated into the Final EIS.
- Final EIS – Publication of the Final EIS is announced by an NOA in the Federal Register. Copies are typically distributed to interested parties.
- Review Period – Once the Final EIS has been distributed, there is a final review period before the decision on the proposed action or alternatives is made.
- Record of Decision (ROD) – A ROD is prepared and published in the Federal Register documenting the final decision made regarding the proposed action.

The NEPA review process requires the Federal agency proposing the action to provide the public with opportunities, where practicable, to participate by identifying issues, providing input into the alternatives, raising concerns/issues, and reviewing the DEIS.

The Future Programs EIS has been prepared according to all applicable directives and the Public Affairs Plan that was developed to facilitate and guide public involvement for this EIS. Public involvement in the Future Programs EIS is summarized in Section ES – 6.0, Consultation and Coordination.

Figure ES – 2. Environmental Impact Statement Process.



The Future Programs EIS does not alter the approvals or documentation contained within existing NEPA documents or other regulatory processes for previously approved ongoing activities at DPG. Approval of a ROD for the Future Programs EIS will not preclude the need for NEPA analyses for future proposed actions at DPG. Such future proposed actions should be consistent with the preferred alternative described in an approved ROD based on this EIS, and will be subject to the mitigation measures in the ROD. The Proposed Action is DPG's preferred alternative. The Proposed Action or any action alternative cannot be implemented until the completion of the NEPA review process.

ES – 1.6 Organization of the Future Programs EIS

The Future Programs EIS has been prepared pursuant to Council on Environmental Quality (CEQ) regulations in 40 Code of Federal Regulations (CFR) 1500 and the Army's NEPA implementing regulations – Army Regulation (AR) 200-2, Environmental Effects of Army Actions. The Future Programs EIS is organized according to CEQ and Army guidelines for EIS content. It is divided into three volumes. Volume I contains this Executive Summary, Volume II contains the full EIS, and Volume III contains the supporting appendices. Volume II is comprised of the following elements.

- Chapter 1.0, Introduction – Provides background information for perspective and context and explains why this EIS is being considered
- Chapter 2.0, Baseline Activities, Proposed Action, and Alternatives – Describes the existing and planned DPG mission and alternatives
- Chapter 3.0, Affected Environment – Describes the existing human and physical/biological environment at DPG
- Chapter 4.0, Impacts of the Proposed Action and Alternatives – Discusses the anticipated impacts of the Proposed Action and alternatives on the affected environment at DPG
- Chapter 5.0, Cumulative Impacts – Describes any impacts resulting from the Proposed Action in combination with regional activities
- Chapter 6.0, Consultation and Coordination – Describes public and other governmental agency involvement in the EIS process
- Chapter 7.0, Public Comments and Responses – Identifies the comments received on the DEIS during the public comment period and responses to these comments.

- List of Preparers, References, Glossary, and Index

This Executive Summary provides summaries of EIS Chapters 1.0 through 6.0 and Chapter 7.0 in its entirety. These chapters provide the substantive results obtained from the EIS process.

All volumes of the Future Programs EIS are available in public reading rooms.

ES – 2.0 Baseline Activities, Proposed Action, and Alternatives

This section presents summaries of DPG's existing operations, the Proposed Action for this Future Programs EIS, and alternatives to the Proposed Action.

DPG's existing operations would continue under the Proposed Action. Existing operations are termed "baseline activities" for the Future Programs EIS.

ES – 2.1 Baseline Description of DPG

DPG is an existing installation with existing operations. For this EIS, DPG's baseline activities are those that occurred over the 1996 through 1998 period. During the baseline period, DPG had a total work force generally in the range of 1,100 to 1,200 persons, with the following typical breakdown:

- 5 percent Army military personnel
- 40 percent civilians employed by the Army
- 40 percent contractors to the Army
- 10 percent nonmission related personnel such as personnel of the Postal Service, Tooele County Schools, credit union, etc.
- 5 percent Air Force (AF) military personnel, contractors, or civilians employed by the AF

DPG is a test center operated by the U.S. Army Developmental Test Command, which is a major subordinate command of ATEC. U.S. Army Developmental Test Command is the U.S. Army's premier materiel testing organization for weapons and equipment. The diverse set of test capabilities operated and maintained by U.S. Army Developmental Test Command's test centers enable the U.S. Army Developmental Test Command to test military hardware of all types under precise and controlled conditions and across the full spectrum of man-made and natural environments.

As shown in Table ES – 1, Summary of DPG Organization and Functions, DPG is organized into four major units headed by the Office of the Commander. While the West Desert Test Center (WDTC) carries out DPG's test mission, DPG tenants and customers also sponsor activities conducted at DPG. A DPG tenant is an organization that uses DPG on a regular basis to conduct testing or training activities, or to provide installation support activities. A DPG customer is a governmental or private entity that requires use of DPG's workforce, facilities, or vast land to conduct testing, technology development, or training activities. The scope of DPG customers range from an entity conducting a one-time activity to an entity conducting regular activities as part of an ongoing mission program at DPG. Unlike some tenants, DPG customers are not stationed at DPG. DPG tenants typically have only administrative operations at DPG. Additionally, tenants normally use their own equipment to carry out their testing, training, scientific activity, or other activity at DPG. Tenants have an assigned DPG point of contact who assists the tenant with scheduling and administrative matters.

Table ES – 1. Summary of DPG Organization and Functions.

Organizational Unit	Functions
Office of the Commander	• Responsible for implementing DPG's mission • Provides overall direction for DPG's operations
Base Operations	• Provides basic services that support installation operations such as housing, facility engineering, and security • Provides planning and operation support, and information and resource management • Reports to Office of the Commander
Special Staff	• Provides health and safety, environmental, public affairs, and legal support • Provides religious and social activities, family support, and counseling • Reports to Office of the Commander
West Desert Test Center	• Carries out DPG's test mission • Provides management control of DPG's mission specific testing efforts • Reports to Office of the Commander

DPG is responsible for obtaining and maintaining all applicable environmental permits and approvals to allow testing and training missions to take place on the installation, and pays all fees for environmental permits that are required as a result of these training activities.

The standard test planning and management process within the WDTC includes an environmental review.

In addition, a variety of management plans have been developed, or are under development, at DPG to ensure:

- Federal and state regulations are complied with
- Cultural and environmental features are preserved and managed
- Adequate facilities are provided for DPG personnel and the DPG community

These management plans enable DPG to effectively support the installation's mission and are intended to mitigate any potential environmental impacts from DPG activities. DPG has also entered into a number of cooperative agreements with other Federal, state, and local organizations to allow for mutual support.

ES – 2.1.1 Baseline Activity Centers and Facilities

Activity centers are areas where major administrative, testing, training, mission support, and/or installation support activities occur. Facilities used in testing, training, and material/waste management at DPG include structures and designated indoor/outdoor areas where testing or training occurs, or where materials and/or wastes are stored or handled.

The locations of activity centers and major facilities at DPG are shown in Figure ES – 3, DPG Activity Centers and Facilities. Activity centers at DPG include:

Avery Technical Center – Avery consists of 0.16 sq km (40 acres) of land adjacent to Ditto Technical Center (Ditto) and immediately south of Michael Army Airfield (MAAF). Known as the Able Area until the Vietnam era, Avery is the historic site of radiological testing laboratories at DPG. DPG leases Avery, including a hangar, to the AF. AF personnel stationed at Avery are part of the AF's 388th Range Control Squadron (RANS). As a DPG tenant, the 388th RANS is responsible for providing ground support activities to 388th Fighter Wing testing and training activities conducted on the Utah Test and Training Range (UTTR).

Baker Area – Baker consists of 0.10 sq km (24 acres) of land located about 8 km (5 mi) west of Avery and Ditto. DPG's biological defense testing laboratory functions are based at Baker. The main biological defense testing facility at Baker is the Lothar Salomon Life Sciences Test Facility (LSTF). The LSTF replaced the old Baker Laboratory built in 1952. The old Baker Laboratory, now known as the Baker Test Facility, is used for training and some simulant testing activities.

Carr Facility – Carr consists of 0.57 sq km (140 acres) of land about 3.2 km (2 mi) southeast of Ditto and Avery. Carr, which was known as the Toxic Gas Yard and then Charlie Area until the 1960s, is a primary storage location for materials and equipment required to support the various testing, training, and support activities conducted at DPG. Carr also contains several test facilities including the Bushnell

Materiel Test Facility (BMTF) and the Chemical Agent Test Chamber. Munitions, explosives, and chemical agents are some of the materials stored at Carr.

Ditto Technical Center – Ditto is where the first buildings were constructed at DPG in 1942. It is located southeast of MAAF on approximately 0.65 sq km (160 acres) of land. Originally designated Dog Area, Ditto is the primary mission support center for DPG activities (Lewis and Nachmanoff, 1998). The main administrative and test support functions for all WDTC testing activities including planning, environmental review, scheduling, data analysis, reporting, and resource management are conducted at Ditto. Chemical defense testing activities are conducted in the Reginald Kendall Combined Chemical Test Facility (CCTF) at Ditto.

English Village – English Village is located on approximately 2.63 sq km (650 acres) at the eastern edge of DPG. English Village was originally constructed in the 1950s and was known as the Easy Area. A variety of administrative, personnel, community, and installation activities are conducted at English Village to support DPG's private and public sector requirements.

Five Mile Hill and Fries Park – These two areas are often used as a locational reference when describing facilities or activities in this Future Programs EIS. However, Five Mile Hill and Fries Park are not considered DPG activity centers because the activities that occur near or at these locations are not as numerous or diverse as those occurring at the five major activity centers. The Central Hazardous Waste Storage Facility (CHWSF) and several cosmic ray research facilities are located near Five Mile Hill, which consists of 1.48 sq km (365 acres) of land. Fries Park consists of about 0.57 sq km (140 acres) of land and was constructed in the 1950s as temporary housing for construction workers building English Village. Many of the original buildings at Fries Park were demolished in 1998.

Primary indoor facilities, as shown on Figure ES – 3, DPG Activity Centers and Facilities, include:

BangBoxÔ – The BangBox™ is located west of Ditto. Officially named the Propellant, Explosive, and Pyrotechnic Thermal Treatment Evaluation Test Facilities, the BangBox™ consists of two igloo-shaped test chambers, a command post, two storage containers, and an instrumentation building. The BangBox™ was designed to identify and quantify the emissions released when test materials are burned or detonated. BangBox™ tests are conducted as part of the Environmental Characterization and Remediation Technology (ECRT) test activities.

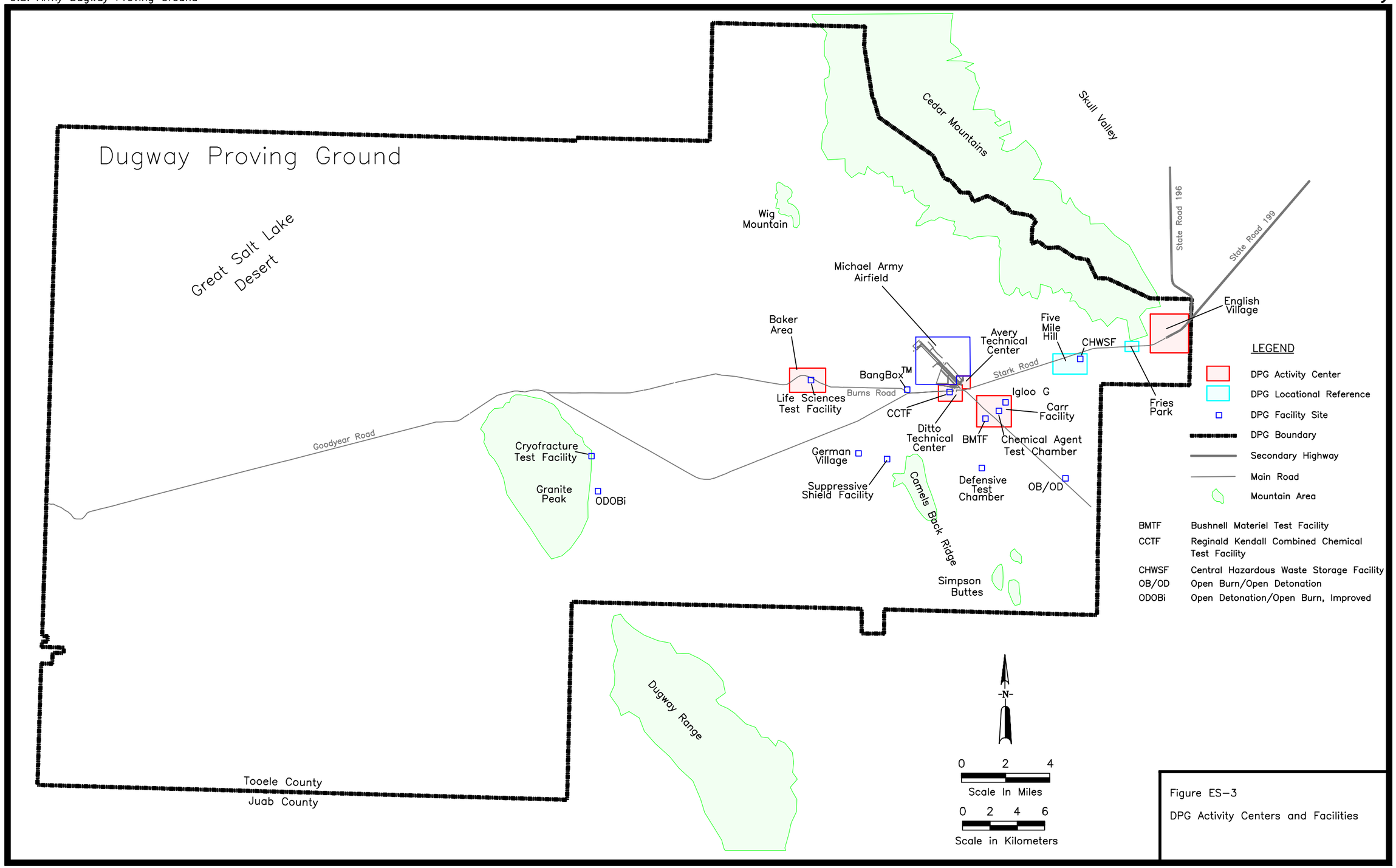


Figure ES–3

DPG Activity Centers and Facilities

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Bushnell Materiel Test Facility – The BMTF is primarily used for chemical defense tests. Either chemical agents or simulants can be used in these tests at the BMTF. Some biological defense tests conducted by the Life Sciences Division at the BMTF involve biological simulants. The BMTF is located in Carr and contains three test chambers, two of which are capable of reproducing most battlefield conditions.

Central Hazardous Waste Storage Facility – The CHWSF is a 16-bay, five-chemical storage cabinet facility with a 94,178-liter (24,880-gallon) capacity. The CHWSF is a Resource Conservation and Recovery Act (RCRA) waste storage facility permitted by the State to store almost any hazardous waste for up to a period of 1 year (UDSHW, 1998). The CHWSF is located about 6.4 km (4 mi) west of DPG's main entrance.

Chemical Agent Test Chamber – The Chemical Agent Test Chamber, located in Carr, is a complex of environmental test chambers, support structures, and equipment for testing chemical agents and industrial chemicals. It consists of two test chambers located side-by-side and is used for chemical defense test activities.

Cryofracture Test Facility – This facility is located along the eastern flank of Granite Peak, and consists of a 15 by 15 meters (m) (50 by 50 feet (ft)) metal building containing a liquid nitrogen bath, hydraulic press, and open-grate furnace for demilitarization testing. Tests conducted at this facility are part of ECRT testing activities.

Defensive Test Chamber– The Defensive Test Chamber (DTC) is located southwest of Carr, and is primarily used for chemical and biological defense testing activities. Chemical simulants are primarily used at the DTC, although chemical agents and biological simulants may be used. A wind tunnel, housed in one side of the chamber, can increase wind speed and ensure good mixing of the vapor clouds. The DTC is equipped with engineered systems that can simulate most battlefield conditions.

German Village – German Village is located northwest of Camels Back Ridge. During World War II, German Village was built to test the effectiveness of incendiary bombs on typical German structures. German Village is used in support of other DPG activities, such as chemical and biological defense training (counterterrorism training), and as an artillery firing point.

Igloo G – Igloo G, located in Carr, is a 7.6 by 24 m (25 by 80 ft), 30-year old earth covered ammunition storage magazine. Igloo G is also authorized to store chemical agents and range-recovered munitions containing chemical agents.

Lothar Salomon Life Sciences Test Facility – The LSTF is a 2,973-sq m (32,000-sq ft) facility located at Baker that is used to conduct biological defense testing activities. Both biological simulants and biological agents are used at this facility. The LSTF consists of laboratories that are capable of working at biosafety level (BL) 1 through BL 3.

Open Detonation/Open Burn, Improved – Open Detonation/Open Burn, Improved (ODOBi) is a test facility located by Granite Peak designed to withstand detonations of up to 11 kilograms (kg) (25 pounds (lb)) of net explosive weight as part of the ECRT testing program. Similar ECRT test activities take place at the Suppressive Shield Facility.

Reginald Kendall Combined Chemical Test Facility – The 3,252 sq m (35,000 sq ft) CCTF located in Ditto consists of two laboratory buildings and one administrative building. The facility supports the testing of protective clothing and masks, detectors, and decontamination systems using chemical agents and simulants. The CCTF also supports analysis of samples from laboratory and chamber trials and environmental samples from DPG operations to ensure compliance with Federal, state, and local regulations.

Suppressive Shield Facility – The Suppressive Shield Facility is located north of Camels Back Ridge. Tests conducted at this facility are associated with the ECRT test program. It is used for large shrapnel producing detonations and weapons emissions characterization. Energetics, chemical simulants, decontaminants, and biological simulants can be used in this facility.

Primary outdoor facilities, as shown on Figure ES – 3, DPG Activity Centers and Facilities, include:

Airspace – By various agreements between the AF and Army, there are two airspaces above DPG – the airspace west of Granite Peak, and the airspace east of Granite Peak and west of Five Mile Hill. The UTTR has priority use of the airspace west of Granite Peak, and routinely uses this airspace for test and/or training activities. The AF manages the UTTR as a test and training facility for high performance aircraft, which are principally based out of Hill Air Force Base (HAFB), UT. DPG has priority of use of the airspace east of Granite Peak, and routinely uses this airspace in support of the various testing and training activities.

Michael Army Airfield – MAAF is located north of Ditto and Avery on 2.8 sq km (680 acres). DPG operates the airfield. The majority of aircraft using MAAF are DOD military aircraft not stationed at DPG. Due to deteriorating runway conditions, aircraft landing restrictions are severe during the winter months from November through March. Only F-16s and aircraft 5,670 kg (12,500 lb) gross weight and below can land on the runway during these months.

Open Burn/Open Detonation – The Open Burn/Open Detonation (OB/OD) is an oval-shaped area of about 549 by 396 m (1,800 by 1,300 ft) where open burns and detonations occur under controlled conditions. The OB/OD area has been operational for 30 years and is located in the southeast portion of DPG. Carr is the closest area to the OB/OD where DPG personnel work on a regular basis and the closest residents are in English Village, approximately 12 km (7.5 mi) northeast of the OB/OD area.

Ranges and Impact Areas – Ranges are areas designated for testing or training. Impact areas are areas designated for testing or training where artillery, mortar, or missiles are targeted to impact. Table ES – 2, Summary of Baseline Ranges and Impact Areas at DPG, describes the ranges and impact areas at DPG. Figure ES – 4, Locations of Baseline Grids, Ranges, and Impact Areas, displays the locations of grids, ranges and impact areas at DPG.

Table ES – 2. Summary of Baseline Ranges and Impact Areas at DPG.

Range or Impact Area Name	General Location	Type of Activity Conducted
880 Range	South of Carr and east of White Sage Range	Conventional munitions testing
Baker Strong Point Target Complex	West of Granite Peak, approximately 1 mile from DPG's west boundary	• Strafe and inert ordnance • Laser training • SAM site
German Village Artillery Range	South of Baker	• Smoke and obscurant testing • Conventional munitions testing
Granite Peak Impact Area	Southwest of Granite Peak	Impact area for firing from West Granite Peak training area
Granite Peak Range	West side of Granite Peak	Conventional munitions testing
Illumination Range	Southeast of Carr	• Conventional munitions testing • Smoke, obscurant, and illuminant testing
Juliet Range	South of Baker	Conventional munitions testing
Mine Testing Range	West of Ditto	Anti-personnel and anti-tank mines testing
West Granite Artillery Range (Causeway Artillery Range)	West of Granite Peak and South of Goodyear Road	Conventional munitions testing and training
West Granite Impact Area	West of Granite Peak	• Conventional munitions testing and training • Impact area for firing from the Granite Peak firing points

Table ES – 2. Summary of Baseline Ranges and Impact Areas at DPG.

Range or Impact Area Name	General Location	Type of Activity Conducted
White Sage Impact Area	Southeast corner of DPG	• Conventional munitions testing • Smoke, obscurant, and illuminant testing • Impact area for firing from White Sage training area
White Sage Range (Howitzer Range)	South of Carr	• Conventional munitions testing and training • Smoke, obscurant, and illuminant testing
Wig Mountain Impact Area	West of Wig Mountain	• Conventional munitions testing • Impact area for firing from Wig Mountain and Cedar Mountain training areas

Baker Baker Area
Carr Carr Facility
DPG U.S. Army Dugway Proving Ground
SAM Surface-to-Air Missile

NOTE: All ranges, impact areas, and grids may be used for conventional munitions testing. The type of testing activity specified represents the most common or frequently performed activity.

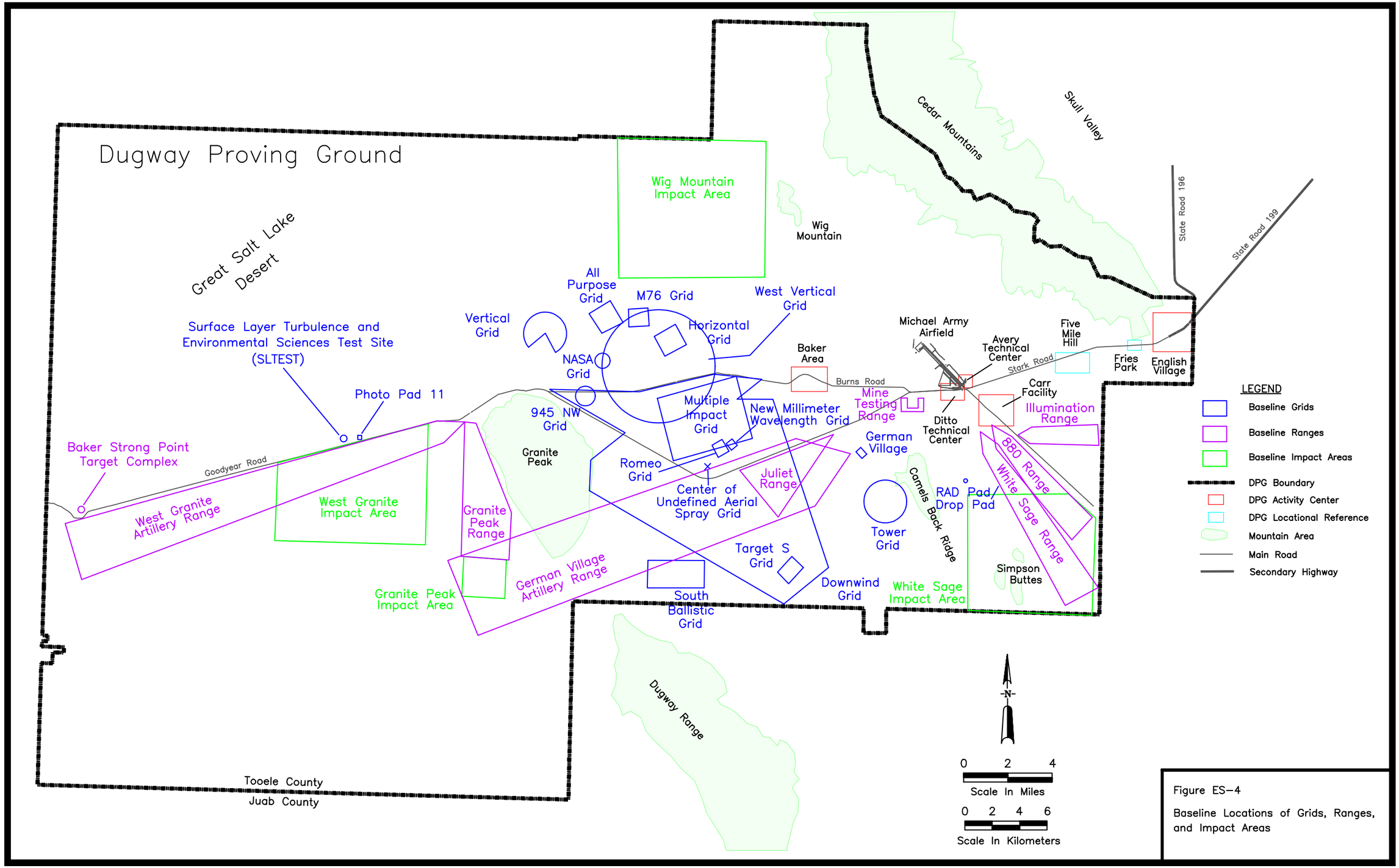

Figure ES–4

Baseline Locations of Grids, Ranges, and Impact Areas

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Test Grids – Test grids are designated areas where outdoor tests are performed, most often involving chemical or biological simulants. Grids are constructed as necessary to accommodate the test and the data that are needed. Sampling positions are established to permit fast and efficient collection of air samples. Table ES – 3, Summary of Baseline Test Grids at DPG, summarizes the test grids at DPG.

Table ES – 3. Summary of Baseline Test Grids at DPG.

Grid Name	General Location	Type of Testing
945 Northwest Grid	North and east of Granite Peak	Smoke and obscurant
Aerial Spray Grid	Defined center point north of Stark Road in Downwind Grid	Atmospheric dispersion and ground level deposition for aircraft and ground spray trials
All Purpose Grid	Northeast of Granite Peak	• Biological defense • Chemical defense • Smoke and obscurant • Conventional munitions
Downwind Grid	East of Granite Peak	• Biological defense • Chemical defense • Smoke and obscurant
RAD Pad/Drop Pad	North of Simpson Buttes	Physical
German Village	West of Camels Back Ridge	• Biological defense • Chemical defense • Smoke, obscurant, and illuminant • Conventional munitions
Horizontal Grid	Northeast of Granite Peak	• Biological defense • Chemical defense • Modeling and assessment • Smoke and obscurant
M76 Grid	Northeast of Granite Peak	• Conventional munitions • Smoke and obscurant
Multiple Impact Grid	East of Granite Peak between Burns Road and Stark Road	• Biological defense • Chemical defense • Conventional munitions • Obscurant
NASA Grid	Northeast of Granite Peak	• Chemical defense • Conventional munitions • Smoke and obscurant
Romeo Grid	East of Granite Peak and south of Multiple Impact Grid	• Conventional munitions • Smoke and obscurant
New Millimeter Wavelength Grid	East of Granite Peak and south of Multiple Impact Grid (next to Romeo Grid)	• Conventional munitions • Obscurant
Photo Pad 11	East of SLTEST site on the north side of Goodyear Road	• Biological defense • Modeling and assessment

Table ES – 3. Summary of Baseline Test Grids at DPG.

Grid Name	General Location	Type of Testing
SLTEST Site	West of Granite Peak; SAMS Number 18	• Biological defense • Modeling and assessment
South Ballistic Grid	North of Dugway Range	• Conventional munitions • Obscurant
Target S Grid	Southeast portion of Downwind Grid	• Conventional munitions • Modeling and assessment
Tower Grid	West of Camels Back Ridge	• Biological defense • Chemical defense • Conventional munitions • Modeling and assessment
West Vertical Grid	Northeast of Granite Peak	• Biological defense • Chemical defense • Smoke and obscurant

NASA National Aeronautics and Space Administration
SAMS Surface Atmospheric Measurement System
SLTEST Surface Layer Turbulence and Environmental Sciences Test

NOTE: All ranges, impact areas, and grids may be used for conventional munitions testing. The type of testing activity specified represents the most common or frequently performed activity.

Training Areas – Large portions of DPG are designated for training purposes. DPG was first opened to Army Reserve Component training in 1969. Military training requires varying terrain to ensure the most realistic training experience. The training areas at DPG include vast areas of the valley floor, foothills, salt and alkali desert, and rugged mountain ranges. These conditions and the four-season climate of west central Utah provide ideal conditions for training light, airborne, artillery, special operations, and joint command forces. As of 2000, about 23 percent of DPG land holdings are designated for training activities. Figure ES – 5, Baseline Locations of Ground Training Activities, shows the locations of the four training areas and their associated impact areas. The following four ground training and associated impact areas are located at DPG:

- The Cedar Mountain Training Area is located within the Cedar Mountains. Several interconnecting roads within the training area are useful for truck convoy/ambush scenarios.
- The Wig Mountain Training Area is located south-southwest of the northern portion of the Cedar Mountain Training Area and east/northeast of the Wig Mountain Impact Area. The training area includes a series of raid sites and associated firing fans, which have been designated and constructed for troop training.

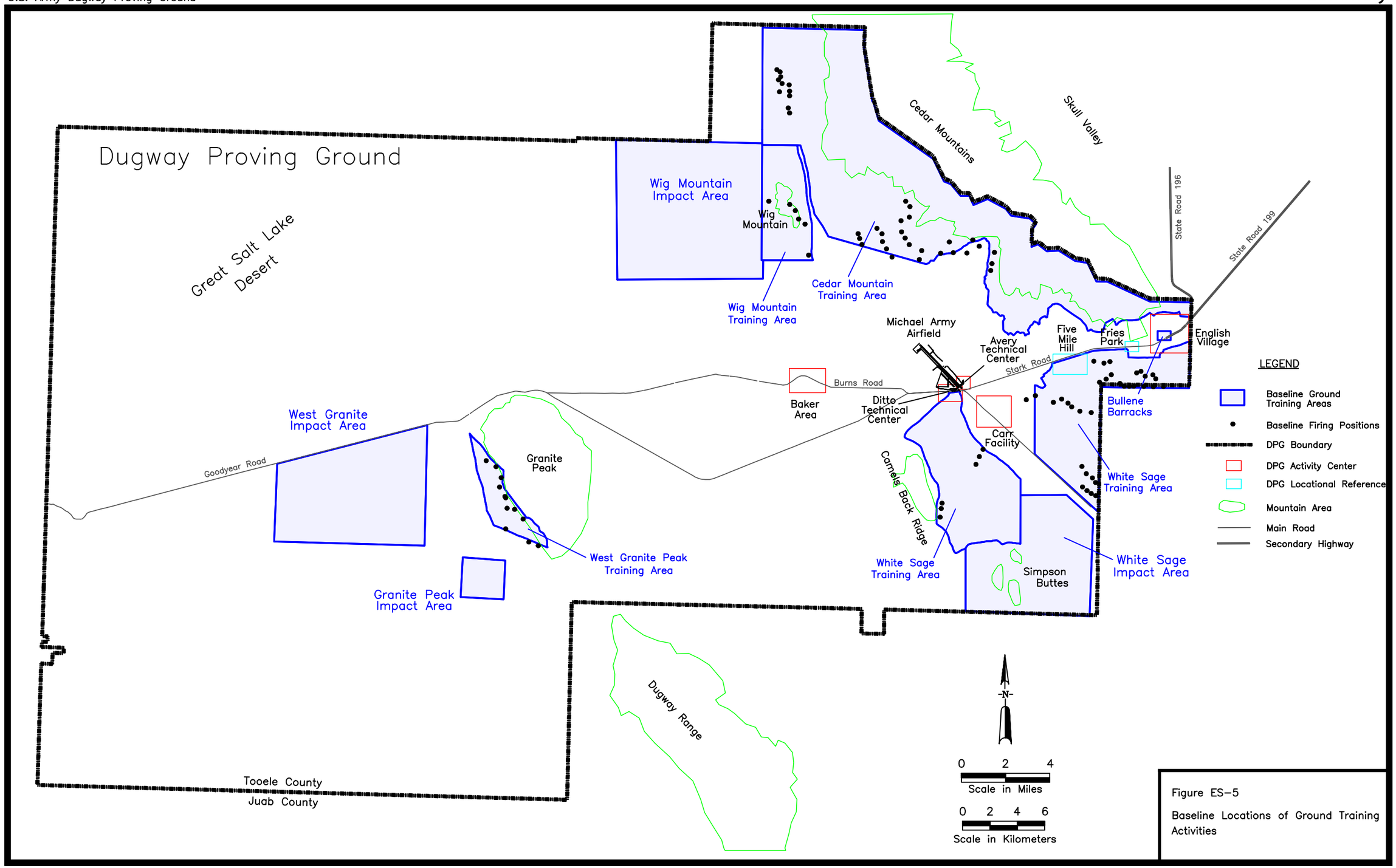

Figure ES–5

Baseline Locations of Ground Training Activities

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- The White Sage Training Area includes two noncontiguous areas to the north and northwest of the White Sage Impact Area. The White Sage Training Area is used primarily for artillery and Combat Service Support field operations
- The West Granite Peak Training Area, also known as Causeway, is located approximately 40 km (25 mi) west of Ditto, south of Goodyear Road, and just west of Granite Peak. This training area is used primarily for artillery and Combat Services Support operations.

ES – 2.1.2 Baseline Testing Activities

Testing has traditionally been and continues to be the major component of DPG's mission and programs.

Testing is conducted at DPG for the following purposes.

- **Developmental and operational testing is conducted to collect data on whether military materiel meets required design specifications and operational requirements to support acquisition decisions throughout a product's entire life-cycle.**
- **Testing is conducted to determine whether military equipment can survive contamination and subsequent decontamination of chemical and biological agents without adversely impacting its performance.**
- **Quality testing on military equipment and systems that have passed the design stage is conducted to ensure product quality, functionality, and operational characteristics.**

Testing activities at DPG are conducted by WDTC staff and DPG contractors at indoor laboratories and test chambers and outdoor test sites, grids, and ranges. Summaries of baseline activities for each DPG testing program follow.

Biological Defense Testing – To counter the proliferation of biological weapons and protect against terrorist threats, the U.S. is strengthening its biological defense program. Biological defense testing activities conducted at DPG are part of the DOD's Chemical and Biological Defense Program (CBDP) (DOD, 1989a). Biological testing activities at DPG provide major contributions to the CBDP objective of establishing a solid national defense against biological attack.

DPG has the capability to support biological defense tests that require BLs 1, 2, and 3. BLs are developed by the Center for Disease Control (CDC) and the National Institute of Health (Dynamac, 1992; CDC, 1993) and each is defined by a specific set of practices, safety equipment, and facility design. Every microorganism is assigned to a particular BL based on the risk inherent in the manipulations and

quantities routinely used in a clinical laboratory. Activities that use larger quantities, or which have a higher risk of aerosol generation, generally require a higher BL.

- BL 1 facilities, practices, and equipment are appropriate for undergraduate and secondary educational teaching laboratories where work is done with defined and characterized strains of viable microorganisms not known to consistently cause disease in healthy adult humans.
- BL 2 facilities, practices, and equipment are applicable to clinical or diagnostic laboratories where work is done with the broad spectrum of indigenous moderate-risk agents that are present in the community and associated with human disease of varying severity.
- BL 3 facilities, practices, and equipment are applicable to clinical, research, or production facilities where work is done with agents having a potential for respiratory transmission, and which may cause serious and potentially lethal infection.
- BL 4 facilities, practices, and equipment are applicable for work with dangerous agents that pose a high individual risk of life-threatening disease, which may be transmitted via the aerosol route and for which there is no available vaccine or therapy.

DPG does not conduct biological testing activities with BL 4 level organisms, the highest BL category.

DPG uses biological agents and simulants for the following biological defense test purposes (Dynamac, 1992; Middlebrook, 1998):

- Contamination avoidance – testing biological agent detection, identification, and early warning equipment and battlefield management systems
- Protection – testing equipment that would sustain life and allow for continued operational capability in biological agent contaminated areas and studying vaccines that can be used to protect individuals who may be exposed to biological agents
- Decontamination – testing decontaminants, decontamination equipment, and tactics, techniques, and procedures for their effectiveness with equipment and personnel decontamination

DPG attempts to use biological simulants over biological agents to the greatest extent possible, although biological agents often must be used to ensure that the defense systems perform as expected with the actual biological agents.

A large portion of indoor biological defense work at DPG is antigen production in support of U.S. military and North Atlantic Treaty Organization (NATO) biological defense efforts. Antigens are the biological agents or simulants that cause the body to produce antibodies. DPG also produces antibodies. Antibodies detect and combat infecting antigens in humans and animals. DPG also participates in vaccine characterization tests.

DPG does not perform outdoor testing with biological agents. DPG does not engineer or manipulate the genetics of any organism used in outdoor testing. DPG only performs defensive biological testing.

Chemical Defense Testing – Based on concerns about potential use of chemical agents in the future, the U.S. is strengthening its chemical agent defense program. As with biological defense testing measures, the Army has been given the lead among the armed services for testing and evaluation related to chemical agent defense (DOD, 1997).

As the nation's only chemical agent defense proving ground, DPG is the primary location for testing of chemical defense equipment for the DOD chemical defense program.

DPG uses chemical agents and simulants for the following chemical defense test purposes (DOD, 1997):

- Contamination avoidance – testing chemical agent detection, identification, and early warning equipment and battlefield management systems
- Protection – testing equipment that would sustain life and allow for continued operational capability for armed forces in chemical agent contaminated areas
- Decontamination – testing decontaminants, decontamination equipment, and tactics, techniques, and procedures for their effectiveness with equipment and personnel decontamination

In addition to these chemical defense tests, DPG also conducts compliance and other chemical defense related testing in which chemical agent may be used.

Conventional Munitions Testing – DPG has tested conventional munitions since it was established in 1942. Conventional munitions are still regularly tested at DPG.

Three factors make DPG especially attractive for testing conventional munitions:

- **Soft impact areas, which allow for the recovery of fired projectiles**
- **Large size, which provides long range capabilities**
- **Isolated location, which minimizes noise impact on the surrounding environment**

Conventional munitions traditionally include artillery, mortars, explosives, rockets, and missiles. Conventional munitions testing at DPG measures performance characteristics, such as the accuracy of firing systems, adequacy of ammunition, and effectiveness of design. The most common type of conventional munitions test at DPG is the lot acceptance test, in which a certain type of munition is tested for approval by the DOD.

Environmental Characterization and Remediation Technology Testing – To maintain a constant state of readiness, DOD installations store a diverse inventory of materials including conventional munitions and energetics. When stockpiled materials such as conventional munitions and energetics can no longer fulfill their original functions, they must be destroyed in a safe and environmentally sound manner. The process of destroying these materials is referred to as demilitarization.

In the early 1990s, the Army established a testing program at DPG to support conventional munition and energetic demilitarization efforts. This program studies options to demilitarize certain conventional munitions and energetics as well as methods to environmentally characterize the emissions resulting from demilitarization. The term ECRT testing is applied to these testing activities because demilitarization is also referred to as remediation.

ECRT testing is conducted at DPG to develop and test the effectiveness of methods to demilitarize damaged or obsolete conventional weapons and to characterize emissions resulting from conventional weapon and energetic demilitarization methods.

Modeling and Assessment Testing – Modeling and assessment testing at DPG is conducted primarily to support biological and chemical defense tests, and may also be performed for smoke and obscurant tests. Modeling and assessment testing is conducted to support DPG's mission and functions as well as for customers whose activities are not part of DPG's ongoing mission program.

DPG maintains meteorological measurement and modeling capabilities to determine atmospheric effects on transport and dispersion of materials released into the atmosphere. Modeling and assessment testing includes developing atmospheric dispersion models and conducting special meteorological and modeling studies.

Smoke, Obscurant, and Illuminant Testing – Although smokes, obscurants, and illuminants are considered conventional munitions, they are discussed separately from other conventional munitions because of their unique properties.

Smoke, obscurant, and illuminant systems remain a relatively low-cost, highly effective technology that can be used by the military for a variety of purposes such as:

- **Screens to hide troops, equipment, and areas from enemy detection**
- **Decoys to confuse and mislead enemy forces**
- **Blinding mechanisms laid directly on enemy positions to impair their ability to see**
- **Lighting purposes to enhance vision for military maneuvers**

Testing at DPG is conducted with smokes, obscurants, and illuminants to determine how they can be used for military operations as well as how to defend against enemy use of these systems. DPG's remote location provides an advantage for this type of testing because it allows for the dissemination of large quantities of materials.

Tests with smokes, obscurants, and illuminants depend on the material to be disseminated, the method of dissemination, and the purpose of the tests. Modern smokes and obscurants may be deployed from the ground or from aircraft. Because smokes, obscurants, and illuminants can substantially affect battlefield situations, military decision-makers must have the ability to assess smoke, obscurant, and illuminant effectiveness under a variety of conditions including adverse weather. Smokes, obscurants, and illuminants are sometimes used to support operational testing and training of soldiers by simulating battlefield conditions.

Physical Testing – Physical testing, also known as reliability, durability, and climatic testing, is performed to ensure that military equipment is designed to withstand the physical and environmental stresses it would encounter during its life cycle (DOD, 1989b).

All equipment the Army uses must undergo physical testing to ensure proper safety and function during any situation. Physical tests are important because they analyze the ability of equipment to withstand conditions that could be encountered during battlefield operations or transportation.

Climatic tests disclose defects, verify corrective actions, and provide safety assessments of equipment/ammunition for suitability in its intended operational and storage environments. Environmental chambers are used to expose items to a wide range of climatic conditions. Nondestructive tests provide the capability to inspect and analyze artillery and mortar munitions for flaws and malfunctions that may result from a physical or climatic test (Andrulis, 1992). DPG's physical tests are conducted in either indoor or outdoor locations. Physical tests are conducted in support of other DPG activities such as conventional munitions testing.

Support to Air Testing – DPG's location within UTTR airspace is central to its role in supporting military air testing activities. Most air testing activities involving DPG are based out of HAFB and are conducted as AF activities. Flight over critical test facilities at DPG is prohibited. DPG provides support to air testing activities being performed by the AF at UTTR, such as providing ground test targets, necessary ground support facilities, and assistance to the UTTR and AF, as required. Facilities at DPG available for UTTR users include land based targets, MAAF, Avery, and infrastructure such as roads.

ES – 2.1.3 Baseline Training Activities

DPG's remote location and large size enhance its value as a training range. Access to space is also important as the types of training missions evolve to keep pace with the more sophisticated weapons systems and aircraft that become available.

Training at DPG is predominantly military, consisting mostly of artillery, air, and ground combat exercises. Military training at DPG occurs in designated locations, including MAAF, training areas, impact areas, maneuver training areas, and targets.

A very small number of training exercises involves non-military organizations such as fire-fighting crews. The following training activities are conducted at DPG.

Ground Training – Ground training consists primarily of towed and self-propelled artillery live-fire and related combat maneuver exercises, ranging from weekend unit field training exercises to annual training lasting up to 30 days and involving primarily National Guard (NG), reserve, and active Army and AF units. However,

active units from all branches of the services use DPG for training. About twenty-three percent of DPG's total area is available for ground training, including associated munitions impact areas.

Ground training involves artillery and tactical units operating on the ground, but also may involve air support to both rotary and fixed wing aircraft and smoke, reconnaissance, and decontamination exercises performed by active and reserve component chemical defense military units. In addition, one large combined ground and air training exercise occurs each year at DPG involving substantial ground and air components and other assets.

Off-road maneuver training outside of established firing points by heavy tracked military vehicles is not permitted at DPG. Additional prohibitions and stipulations specific to individual training exercises may be established by DPG on a case-by-case basis.

Training activities are scheduled throughout the year. The Army NG is the most frequent training user at DPG and conducts the ground training exercises described in this section. Artillery light forces and joint exercises are the predominant and largest ground training exercises at DPG. Joint exercises are sometimes also referred to as "global exercises" in the media.

Counterterrorism Training – In addition to ground training, DPG's expertise in chemical and biological defense testing has led to a relatively new mission component, training military and civilian emergency personnel in responding to terrorist events involving chemical or biological agents.

Counterterrorism training at DPG involves training to respond to terrorist threats which fall into two categories:

- **Crisis Response – involves training for the discovery of terrorist perpetrators before release of any substances.**
- **Consequence Management – involves training to prepare for the consequences of an actual terrorist attack.**

Joint Program Office for Bio Defense, 1998

Counterterrorism training at DPG focuses primarily on consequence management (Delgado, 1999). The term counterterrorism training in this Future Programs EIS includes training of first responders, active and reserve component military units, and support personnel in all aspects of consequence management including identification, detection, and remediation of substances; law enforcement; integration of technical and nontechnical components; and testing of equipment and

procedures. Although counterterrorism training can be performed at any DPG facility, MAAF, German Village, and Tower Grid are facilities that have been used as staged laboratories and public areas during simulated terrorist activities.

Support to Air Training – DPG actively supports air training activities based at the UTTR. Most air training activities involving DPG are based out of HAFB and are conducted as AF activities. Such AF training activities frequently use the airspace west of Granite Peak, and following coordination with DPG often use the airspace east of Granite Peak. DPG does not typically perform air training activities, but DPG does provide support such as ground test targets, necessary ground support facilities, and any other assistance that the UTTR and AF may require for mission accomplishment. AF ground activities by units/teams not engaged in flight are included in this EIS.

ES – 2.1.4 Baseline Research Support to Non-DOD Agencies

DPG is available for use by government agencies, educational institutions, and private organizations to conduct research projects not necessarily related to DPG's overall mission.

Non-DOD organizations conducting research or test projects at DPG may participate in a one-time event as a DPG customer or may establish a longer term tenant status at DPG.

Some governmental agencies that have conducted research at DPG include the California Air Resources Board, the City of Tucson, the U.S. Department of Transportation, Dulles International Airport, and the U.S. Department of Energy.

There is one DPG tenant conducting scientific research at DPG, the University of Utah's cosmic ray research program. Cosmic ray research activities at DPG consist of the largest cosmic ray research facility in the world. The primary mission of this program is to conduct research in the following fields:

- Cosmic ray physics
- Particle physics
- High energy astrophysics
- Astronomy

DPG is an ideal location for cosmic ray research because there are no interfering lights, it is in a protected location, and the visibility is generally clear.

ES – 2.1.5 Baseline Mission and Installation Support Activities

A variety of mission support activities at DPG provide essential services for the operation of DPG's technical mission and functions. These mission support activities consist of services provided directly by DPG as well as services provided by tenants. Major mission support activities include airfield operations, ammunition accountability, range control, and technical escort.

A variety of support activities at DPG provide services necessary to conduct the day-to-day functions of the installation and ensure that installation activities are being conducted appropriately. Major installation support activities include community activities, environmental programs, grounds and road maintenance, health services, housing, security and counterintelligence, and utilities. These installation support activities are provided by DPG and by tenants.

ES – 2.2 Proposed Action

The Proposed Action for this Future Programs EIS includes the following three primary elements:

- **Continuation of Baseline Mission Components - Under the Proposed Action, baseline activities would continue. The level of activity for most of these activities would increase.**
- **Diversification of DPG Operations - New types of testing, training, and technology development activities at DPG are anticipated as part of the Proposed Action. The Proposed Action includes only those new tests, training exercises, and technology development activities that are believed to be "reasonably foreseeable" as of March 2001, and for which DPG is the proponent or has a high level of control. Any future activities that are implemented but not foreseen within the scope of this Future Programs EIS would undergo a separate NEPA analysis.**
- **Implementation of an SDP - The SDP, prepared in conjunction with the Future Programs EIS, summarizes proposals and requirements for real property with a direction for the future development of DPG's installation.**

The Proposed Action is DPG's preferred alternative.

A comparison of the difference in baseline and Proposed Action testing, training, and research activities is provided in Table ES – 4, Number of Testing, Training, and Research Events - Baseline versus Proposed Action. This table presents the increase from baseline to the Proposed Action for number of test, training, and research events only. Mission and installation support activity increases are not presented because they are affected by other increases in addition to the number of tests, training, or research events performed at DPG. Because physical testing is

performed as part of other WDTC testing activities, physical testing increases are incorporated by these other testing activities.

Estimates of future DPG activities used in the Proposed Action description are not regulatory limits, but rather represent best estimates given current information on the projected needs of the various DPG operating components.

Table ES – 4. Number of Testing, Training, and Research Events - Baseline versus Proposed Action.

Activity	Baseline Period Average Annual Number of Events	Proposed Action Period Average Annual Number of Events		
		Continued Baseline Events	New Events	Proposed Action Total
Testing				
Biological Defense	11	16	10	26
Chemical Defense	30	40	30	70
Conventional Munitions	2	30	4	34
Environmental Characterization and Remediation Technology	3	15	0	15
Modeling and Assessment	1	1	3	4
Smoke, Obscurant, and Illuminant	10	44	0	44
Training				
Ground	15	37	72	109
Counterterrorism	2	2	56	58
Research Support to Non-DOD Agencies	4	4	0	4
Total Number of Events	**78**	**189**	**175**	**364**

It is anticipated that the DPG workforce would increase a total of about 10 to 15 percent during the Proposed Action period. Summaries of the Proposed Action for each DPG operating area follow.

ES – 2.2.1 Proposed Action Testing Activities

Testing activities at DPG would increase under the Proposed Action. Summaries of Proposed Action operations for each testing program follow.

Biological Defense Testing – The baseline biological defense testing program would continue under the Proposed Action. New test types and real property changes for the biological defense testing program are also part of the Proposed Action.

Overall, the biological defense testing program within the Proposed Action would more than double from baseline levels, as measured by number of tests. Biological agent and simulant use would also show substantial increases with the Proposed Action.

Continuing outdoor testing activities would primarily consist of contamination avoidance and decontamination tests. Outdoor tests would continue to primarily occur annually from March through October, and would continue to have a wide range in duration from 3 weeks to 8 months or longer. Indoor testing activities for existing mission components would primarily consist of continuation of baseline levels of protection testing and an increase in decontamination testing and contamination avoidance testing.

Diversified operations could include the following types of new tests:

- Equipment certification testing – Testing would determine whether equipment meets appropriate quality and functionality requirements.
- Private industry/academia testing – Testing could be performed by any entity that desires to develop a decontamination or detector system.
- Counterterrorism equipment testing – Testing would evaluate newly developed biological defense detection and protection equipment that is required to effectively prepare for potential terrorist incidents.
- Standoff detector testing – For this testing, detectors would be located at distances of 1 to 10 km from the biological simulant cloud to analyze cloud formation and dispersion.
- Point biological detector testing – Testing would evaluate the early warning capabilities of developmental biological aerosol systems.
- Operational testing of detector systems – Operational testing of detector systems would provide the final evaluation of equipment and systems.
- Large-scale aircraft contamination control field testing – The objective of this testing would be to evaluate the way the military handles aircrew, passengers, and cargo in a chemically or biologically contaminated aircraft.
- Challenge testing – Testing would challenge biological detection systems with pathogen aerosols including bacteria, viruses, and toxins.
- Forensics testing – Testing would be performed to ascertain, confirm and/or identify the presence of suspected biological and/or chemical agents.

- Test methodology and technology development – This would consist of developing methodologies and studying the latest technologies to support testing.

Major real property proposals for the biological defense testing program in the Proposed Action include the following (AGEISS and HBA, 2000):

- Construct a permanent annex to the LSTF to house test research, design, analysis, and report writing area for scientists; an area for calibration, maintenance, and repair of sensitive instruments used in laboratory operations; and a room for electron microscope operations.
- Investigate construction of a new storage building at the LSTF for storing outdoor test equipment and electrical power generators.
- Maintain and restore the Fungus Building.
- Investigate requirements to construct a Detector Challenge Facility to detect chemical/biological simulants in tests associated with flow around vehicles. A wind tunnel and the building enclosing the wind tunnel are needed. This facility should be located near the BMTF and would be used for biological defense, chemical defense, modeling and assessment, and smoke, obscurant, and illuminant testing activities.
- Construct a new command and control facility at Downwind Grid to serve as the control point for all testing activities on Downwind Grid.

Chemical Defense Testing – The chemical defense testing program would continue under the Proposed Action. New test types and real property changes for the chemical defense testing program are also part of the Proposed Action.

Overall, the chemical defense testing program within the Proposed Action would more than double from baseline levels as measured by number of tests. Chemical agent and simulant use would also show substantial increases with the Proposed Action.

Continuing outdoor testing would primarily consist of detector and decontamination testing, and would continue to primarily occur annually from March through October. Existing indoor testing efforts would also continue and include decontamination and personal protective equipment testing.

Diversification of operations could include the following types of tests.

- Battlefield agent destruction testing – Testing would consist of impacting a building containing drums and other containers filled with a chemical simulant with a cruise missile to determine the fate of the simulant.
- Seaport debarkation testing – This outdoor testing would consist of decontamination testing in different simulated seaport conditions.
- Collective protective equipment testing – This testing would determine the effectiveness of combinations of protective equipment under different conditions.
- Mask testing – Masks would be tested for protection from the effects of chemical agent(s).
- Joint field trials – Testing would primarily involve indoor chamber facilities but would also have an outdoor component.
- Droplet dispersion testing – Testing would involve identification of the dispersion pattern and droplet size of chemical agents.
- Counterterrorism equipment testing – Newly developed chemical defense detection and protection equipment that is required to effectively prepare for potential terrorist incidents would be tested.
- Forensics testing – Testing would support analysis of potential chemical threats brought to DPG for initial identification.
- Test technology and method development – Technology would be developed to maintain up-to-date test methods.
- Operational testing – Testing would involve new equipment developments that have slowly been moving toward field and operational testing.
- Assembled Chemical Weapons Assessment (ACWA)-type testing – Testing would support the non-stockpile programs. ACWA is an Army program for demilitarization options for chemical agent weapons stockpiled by the U.S.

Major real property proposals for the chemical defense testing program include the following (AGEISS and HBA, 2000):

- Investigate requirements to construct a Detector Challenge Facility to detect chemical/biological simulants in tests associated with flow around vehicles.

- Construct a new protective equipment test facility that would allow a wider range of testing than provided by the DTC. This facility should be located near the BMTF.
- Construct the 3X Staging Facility to allow needed test preparation space for an upcoming test while an existing test is in progress.
- Investigate requirements for construction of an annex to the DTC to replace several temporary structures.
- Investigate requirements to repair and restore the laboratory building at the CCTF.
- Investigate maintenance shortfalls and renovate the Chemical Agent Test Chamber.

Conventional Munitions Testing – Conventional munitions testing would continue under the Proposed Action.

Existing conventional munitions testing at DPG is anticipated to increase substantially over baseline levels through the Proposed Action time period. An additional small increase under the Proposed Action is anticipated as the result of new types of conventional munitions tests planned to be conducted at DPG.

All conventional munitions testing activities would continue to be conducted outdoors only. The most common type of conventional munitions test at DPG would continue to be the lot acceptance test, in which a munition is tested for approval by the DOD. Material use would rise as well for these tests compared to baseline. Diversification of operations would provide new mortar, artillery, and explosive system tests. There are no real property proposals for the conventional munitions testing program.

Environmental Characterization and Remediation Technology Testing – ECRT testing would continue under the Proposed Action.

Existing ECRT testing activities at DPG are anticipated to substantially increase over the baseline level through the 7-year Proposed Action time period. No new types of tests are planned.

Testing plans for the Suppressive Shield Facility include weathering, decontamination, and penetration studies. ECRT tests at the BangBox™ through the Proposed Action time period include mass balance characterization of burning munitions or energetics, analysis of smokes, and emission characterization of muzzle blasts and burns.

Real property proposals for the ECRT testing program include the following (AGEISS and HBA, 2000).

- Determine if future mission would support construction of an 18-kg (40-lb) BangBox™.
- Determine if future mission would support moving the ODOBi facility to a new location near the Suppressive Shield Facility.

Modeling and Assessment Testing – Modeling and assessment testing would continue under the Proposed Action.

Modeling and assessment testing at DPG is anticipated to increase over the baseline level through the Proposed Action time period as a result of new types of tests. The level of continuing baseline tests is relatively small compared to other testing programs.

No major changes in equipment or areas used to perform outdoor testing are projected. With diversification of operations, new modeling and assessment testing activities could include:

- Addition of indoor testing capabilities
- Use of smoke and obscurant ordnance rounds and materials for flow visualization in outdoor tests
- Additional air quality monitoring
- Modeling and meteorological support to counterterrorism activities

The real property proposal for modeling and assessment testing is to investigate requirements to construct the Detector Challenge Facility for validating dispersion models.

Smoke, Obscurant, and Illuminant Testing – Smoke, obscurant, and illuminant testing would continue at DPG under the Proposed Action.

Existing smoke, obscurant, and illuminant testing activities at DPG are anticipated to substantially increase over the baseline level through the Proposed Action time period. No new types of tests are planned.

No major changes in equipment or areas to perform these continuing outdoor tests are expected to occur. Much of the increased level of smoke, obscurant, and illuminant testing would support biological defense and chemical defense testing activities.

With the Proposed Action, existing smoke, obscurant, and illuminant tests that would be substantially expanded include:

- Military equipment performance testing
- Smoke and obscurant support for training activities, for example, simulating a smoke environment
- Smoke and obscurant support to counterterrorism training and testing activities
- Expanded smoke, obscurant, and illuminant developmental testing activities

All tests would continue to be conducted outdoors. Materials used for these additional continuing mission tests would rise proportionately to baseline material usage.

The real property proposal for the smoke, obscurant, and illuminant testing program is to investigate requirements to construct a new test chamber, identified as the Detector Challenge Facility, capable of challenging detectors with smokes and obscurants.

Physical Testing – Physical testing would continue under the Proposed Action.

Under the Proposed Action, physical testing activities are projected to show a slight increase in pace with other testing programs conducted by the WDTC.

Because physical testing activities are generally performed as part of these other WDTC testing programs, the type and level of physical testing activities are not specifically identified in this discussion. Rather, physical testing activities are already included within the other testing components of the Proposed Action. The only real property proposal for the physical testing program is to investigate relocating the Vibration Facility, X-ray Facility, and Black Powder Operation to a new location at Carr where the receiving area is located.

Support to Air Testing – Under the Proposed Action, DPG would continue to support AF testing activities. Existing ground support systems and infrastructure used by the AF would be maintained and upgraded to meet future AF testing requirements. No new DPG operations to support AF testing activities are anticipated under the Proposed Action. There are no specific real property proposals for DPG's support of AF testing activities. However, AF testing activities would be substantially supported by proposed MAAF improvements.

ES – 2.2.2 Proposed Action Training Activities

The Proposed Action for training at DPG consists of marked increases in both ground training and counterterrorism training.

Ground Training – Under the Proposed Action, existing ground training activities at DPG would continue.

Ground training activities would increase substantially over the baseline level during the Proposed Action time period, as measured by number of events as well as acreage of land used and numbers of troops and vehicles involved.

Table ES – 5, Baseline and Proposed Action Ground Training Activity, summarizes the levels of baseline and Proposed Action activity for ground training.

Table ES – 5. Baseline and Proposed Action Ground Training Activity.

Measure of Training Activity	Average Annual Baseline Number	Average Annual Proposed Action Number
Acres Used for Bivouac/Assembly	66,000	75,000
Acres Used for Firing Point Activity	4,600	7,500
Troops in Off-Road Areas	3,300	6,800
Tracked Vehicles	110	170
Vehicles Greater than 5 Tons	230	350

Continuing ground training activities would include artillery training, engineer and firefighter training, special operations, army aviation, and joint exercises.

Proposed new ground training activities include:

- Artillery Training using the M109A6 Paladin Self-Propelled Howitzer – Paladin represents an upgrade of the M109 155-mm self-propelled howitzer, which has been in service with the Army since the 1960s.
- Reserve Component Chemical Units – These units ranging in size from Chemical Companies through Chemical Brigades would routinely train at DPG under the Proposed Action, and would typically perform smoke generation, reconnaissance, and decontamination.
- Support to U.S. Army Chemical Center and School, Fort Leonard Wood, Missouri – DPG would provide field training exercise support to the U.S. Army Chemical Center and School, Fort Leonard Wood, Missouri in the areas of smoke training, decontamination, and reconnaissance.

- Special Operations Training – New activities would include offensive and defensive maneuvers, isolation facility, mortar range, and land navigation operations.
- The Utah NG proposes activities as part of the Proposed Action including additional use of tracked vehicles, establishment of new firing points, establishment of an equipment maintenance facility and other support facilities, use of the inactive runway at MAAF as an air assault strip, and employment of smoke during tactical exercises.

The following are proposed real property projects to facilitate ground training at DPG (AGEISS and HBA, 2000):

- Make permanent the existing and proposed firing points through the planting of resilient grasses or most durable vegetation in these areas to avoid further environmental damage.
- Conduct a cost-benefit analysis to determine the feasibility of constructing a small arms and machine gun range suited for weapons.
- Use MAAF to support joint training use by the Army NG and Utah NG to include ground operations and AF operations as a Joint Air Attack Team.

Counterterrorism Training – Counterterrorism training is expected to increase under the Proposed Action. Typical counterterrorism training activities under the Proposed Action would include:

- Periodic classroom training in analysis of procedures and program development.
- Training on the procedures to be used in crisis and consequence management terrorist incidents involving chemical and biological weapons.

With the Proposed Action, counterterrorism training would increase from a minimal activity to a substantial mission component, covering all aspects of response to terrorist incidents involving suspected chemical and biological material.

The facilities to be used for counterterrorism training scenarios include Ditto, BMTF, DTC, German Village, Baker Test Facility, MAAF, Vertical Grid, Granite Peak, and the Wig Mountain Training Area (Delgado, 1999). Training would involve both military and non-military personnel.

The following are proposed real property projects to facilitate counterterrorism training at DPG (AGEISS and HBA, 2000):

- Identify a site and construct a mock city for urban chemical/biological incident training.
- Investigate the potential for using the Baker Test Facility as a mock biological weapons factory for technology demonstration.

Support to Air Training – Under the Proposed Action, DPG would continue to support AF training activities at levels near baseline. The Proposed Action would entail some equipment-related changes, including maintaining and updating the ground support facilities and infrastructure at DPG to sustain a state-of-the-art capability for the UTTR. The Proposed Action contains no new construction or demolition components from the SDP relevant for support to air training.

ES – 2.2.3 Proposed Action Research Support to Non-DOD Agencies

Research support to non-DOD agencies would continue under the Proposed Action. The University of Utah plans to continue cosmic ray research at DPG through the 7-year Proposed Action time period at the baseline level of testing. Any potential new sites for additional cosmic ray detectors would be located outside of DPG. There are no construction or demolition projects in the SDP related to cosmic ray projects or other research support to non-DOD agencies.

ES – 2.2.4 Proposed Action Mission and Installation Support Activities

Baseline mission support activities are expected to continue and increase under the Proposed Action. No new types of mission support activities are proposed. Replacement of the key runway at MAAF is proposed to provide more operational flexibility for landings of a variety of aircraft at DPG. Damaged airfield lighting systems would also be replaced (AGEISS and HBA, 2000).

Baseline installation support activities are expected to continue and increase under the Proposed Action. No new types of installation support activities are proposed. A substantial number of installation support construction projects, renovations, repairs, and demolitions are proposed to DPG's real property (AGEISS and HBA, 2000). These real property proposals relate to the installation support activities of general support functions, housing and community support functions, information management, roadways, security and counterintelligence, and utilities.

ES – 2.3 Alternatives to the Proposed Action

CEQ regulations implementing NEPA require the EIS to identify and examine reasonable alternatives to the Proposed Action, including a no action alternative.

Three alternatives were developed for this Future Programs EIS.

- **No Action Alternative – Pursuant to regulations implementing NEPA, the no action alternative must be considered. Under this alternative, DPG's baseline operations and management intensity would continue through the 7-year Proposed Action time period. No major changes to activity levels, locations of activities, and the infrastructure would be necessary to support the baseline activities. No new missions or new facilities would be implemented at DPG with this alternative, although several SDP initiatives would be implemented in accordance with normal facility maintenance needs.**
- **Decreased Mission Alternative – This alternative assumes a major reduction in DPG activity level. Under this scenario, no new elements of the Proposed Action would occur, and baseline programs would be dramatically reduced or eliminated from DPG.**
- **Maximum Expanded Mission Alternative – Under this alternative, activity would substantially increase across the board in response to a maximum foreseeable expanded mission at DPG.**

Table ES – 6, Comparison of Number of Events for Each Alternative, compares annual events defined as programs, projects, tests, or similar activities for the Proposed Action and the three alternatives that received detailed environmental evaluation in this Future Programs EIS. The numbers for the Decreased Mission Alternative and Maximum Expanded Mission Alternative are estimated numbers which are intended to bound the maximum and minimum potential level of future activities at DPG.

Table ES – 6. Comparison of Number of Events for Each Alternative.

Activity	No Action Alternative (Baseline)	Proposed Action (Preferred Alternative)	Decreased Mission Alternative	Maximum Expanded Mission Alternative
Testing				
Biological Defense	11	26	7	52
Chemical Defense	30	70	15	140
Conventional Munitions	2	34	0	34
Environmental Characterization and Remediation Technology	3	15	0	15
Modeling and Assessment	1	4	0	8
Smoke, Obscurant, and Illuminant	10	44	0	44
Training				
Ground	15	109	11	109

Table ES – 6. Comparison of Number of Events for Each Alternative.

Activity	No Action Alternative (Baseline)	Proposed Action (Preferred Alternative)	Decreased Mission Alternative	Maximum Expanded Mission Alternative
Counterterrorism	2	58	2	70
Research Support to Non-DOD Agencies	4	4	3	4
Total Number of Events	**78**	**364**	**38**	**476**

ES – 2.4 Alternatives Eliminated from Detailed Evaluation

Alternatives that were discussed by the public during scoping but have been eliminated from further evaluation in this Future Programs EIS include:

- Discontinue Mission and Close Installation
- Modify Mission Components
- Accommodate Biosafety Level 4 Activities
- Accommodate Nuclear Defensive Testing

ES – 2.5 Comparison of Environmental Impacts and Mitigation Measures

Section ES – 4.0, Impacts of the Proposed Action and Alternatives, provides a summary of potential environmental impacts and includes Table ES – 7, Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts. This table identifies environmental issues analyzed in this EIS, related impact(s), appropriate mitigation measures, and residual effects. Topics in this table are presented in the same order as the EIS for easy reference.

ES – 3.0 Affected Environment

The Future Programs EIS provides summary descriptions of the following environmental resources and other topics that could be affected by the Proposed Action or alternatives:

- Geology and Soils
- Water Resources
- Air Resources
- Biological Resources
- Socioeconomics
- Environmental Justice
- Land Use and Access
- Cultural Resources
- Traffic and Transportation

- Visual Resources
- Noise
- Health and Safety
- Materials and Wastes

The descriptions of the affected environment at DPG provide a baseline of the natural and human environment for identification and evaluation of potential environmental impacts. Additionally, this baseline information will be used in tiering NEPA documentation required for future DPG activities. The tiering concept allows additional, updated, or more specific environmental data and impact analysis for future NEPA analyses to supplement the information in this Future Programs EIS.

The summary descriptions of the affected environment are based on existing information and focus within the DPG boundaries, unless noted otherwise. No new major environmental data collection efforts were conducted on DPG lands specifically for this EIS. Data used to describe the existing environment are the latest available, which may differ among the various resource areas. Historic impacts from past DPG activities are considered part of the existing environment, and are described as appropriate. While the quality and quantity of environmental information describing existing conditions at DPG has increased substantially in recent years, there is environmental and natural resource information which has not been collected or evaluated at DPG. Major findings of EIS Chapter 3.0, Affected Environment, follow.

ES – 3.1 Geology and Soils

DPG is located within the Great Basin subdivision of the Basin and Range Physiographic Province. A physiographic province is a region that has similar geologic structure, climate, and developmental history. This province is characterized by a series of mostly isolated north-south trending mountain ranges that are separated by wide desert plains (Press and Siever, 1982).

The majority of DPG lies within the Great Salt Lake Desert, with mountains and low-lying basin areas covering the remaining portions of DPG. Sand dunes are also present at DPG.

Topographic elevations at DPG range from 1,290 m (4,225 ft) above mean sea level (MSL) on the lowest point of the desert floor to 2,150 m (7,068 ft) above MSL at the summit of Granite Peak. The valley (or desert) floors are underlain by lakebed deposits from Lake Bonneville, a large freshwater lake that covered much of western Utah and adjacent parts of Idaho and Nevada during the Pleistocene (Stephens and

Sumision, 1978). Preserved segments of two major Lake Bonneville shorelines are evident in the eastern portion of DPG.

DPG soils serve primarily as wildlife habitat. They are not suited for production of forage for livestock because of high salt content, alkalinity, general aridity of the area, limited amount of vegetation palatable to livestock, and the absence of any economical source of water for irrigation.

Areas impacted by soil erosion have been identified at DPG. Soil erosion can occur by natural or man-made influences at DPG. Erosion has been noted in recent years from wildland fires and in the DPG range training areas due to training activities (Martin, 1999). Wind erosion is a major problem because of the typically dry soil surface and sparse vegetation cover which limits reclamation potential.

Soil contamination has occurred in some areas of DPG from past testing, training, or waste management activities. Ongoing investigations are studying the nature and extent of potential soil contamination at identified areas within DPG.

DPG is within a tectonically active area according to Uniform Building Code seismic zone mapping. Between 1962 and 1977, four earthquake epicenters have been identified within DPG. The magnitude of the associated earthquakes ranges from 1.3 to 2.3. Prior to 1962, four earthquakes with magnitudes greater than 3.0 have occurred in the vicinity of DPG (UUSS, 1999). The associated epicenters were located within approximately 32 km (20 mi) of DPG, to the northeast, southeast, south, and west.

ES – 3.2 Water Resources

The mean annual precipitation at DPG is about 20 centimeters (cm) (8 inches). Most of this precipitation occurs in the spring. Local weather patterns are influenced by DPG terrain, with the mountains receiving more precipitation than surrounding low-lying basin areas. Average annual precipitation ranges from about 15 cm (6 inches) in the basin areas to about 41 cm (16 inches) on the mountain tops at DPG (Andrulis, 1992).

Natural surface water features on DPG land include surface water drainages, springs, ponds, playas, and wetlands. Constructed surface water features include wastewater lagoons, evaporation lagoons, an excavated pond, a bermed pond, and roadside ditches.

The DPG playa has been identified as "waters of the U.S." and several non-jurisdictional wetlands have been identified within DPG. Because DPG is located in

an arid environment, water flow is typically intermittent and irregular in surface water drainages at DPG. Surface water features that have continuous flow throughout the year at DPG include springs that are fed by groundwater discharge and ponds that receive wastewater effluent.

In the undeveloped portions of DPG, surface water runoff occurs as overland flow or is conveyed in natural drainages. Surface water that flows overland in an arid region spreads as a thin, continuous layer over a large area rather than being concentrated into well-defined drainage channels. Most of the surface water runoff that reaches the low-lying areas at DPG evaporates; a small amount of the runoff infiltrates into the soil and is transpired by plants or recharges groundwater. The quality of surface water runoff in the western portion of DPG is characterized as slightly saline to briny. In the remaining portions of the DPG, the quality of surface water runoff is characterized as fresh.

There is no known use of surface water by humans at DPG. However, surface water is an important resource for wildlife and surrounding vegetation. There are several natural and constructed surface water features at DPG that provide water for wildlife use, including springs, ponds, wetlands, playas, and wastewater lagoons. Groundwater is used as a source of drinking, process, and irrigation water at DPG.

As of 2000, ten of the 32 water supply wells that have been drilled at DPG are active, two wells have been abandoned, and the remaining 20 wells are inactive but have not been abandoned. Six of the ten active wells produce potable water while the remaining four wells produce nonpotable water. Potable water at DPG is withdrawn from the Skull Valley Aquifer in the English Village area and from the mid-level Dugway Valley-Government Creek Aquifer in the eastern and central portions of DPG.

Significant aquifer dewatering has not been reported at DPG; although, water levels have decreased in the water supply wells compared to levels first noted during drilling. During the 1980s, English Village supported at least double the number of users compared to the baseline rate and no evidence of aquifer depletion was identified in the Skull Valley Aquifer (AGEISS, 1998d). Additionally, during this time period, Ditto and Carr also supported a greater number of users and no evidence of aquifer depletion was identified in the mid-level aquifer (AGEISS, 1998b; AGEISS 1998c). Between 1994 and 1998, a trend toward decreased groundwater withdrawal has been shown.

Surface and groundwater contamination may have occurred in some areas of DPG from past testing, training, or waste management activities. Ongoing investigations are studying the nature and extent of potential surface water and groundwater contamination at identified areas within DPG.

ES – 3.3 Air Resources

The Federal Clean Air Act (CAA), as amended, provides the primary statutory basis for regulating emissions to air from DPG activity. The Utah Department of Environmental Quality, Division of Air Quality (UDAQ) is authorized by the Environmental Protection Agency (EPA) to implement most provisions of the CAA in Utah. An exception pertinent to DPG is Title VI of the CAA Amendments of 1990. Title VI controls ozone depleting chemicals and is implemented by EPA.

DPG is located in an Air Quality Control Region that is in attainment with all applicable National Ambient Air Quality Standards criteria and Prevention of Significant Deterioration increments.

UDAQ administers several types of permitting programs. DPG is considered a "minor" source under the new source review permit program because it does not have the potential to emit more than 227,000 kg (250 tons) per year of a criteria pollutant. DPG is considered a "major" source under the operating permit program because it has the potential to emit more than 90,700 kg (100 tons) per year of a criteria pollutant. All air emissions are documented in DPG's operating permit program.

The operating permit program requires sources to estimate the potential to emit and to conduct an annual inventory of emissions, in accordance with Utah Air Conservation R307-155. DPG has conducted annual air emissions inventories for the calendar years subsequent to 1994. The 1996, 1997, and 1998 annual air emissions inventories provide the basis for documenting existing air emissions for the Future Programs EIS. A CAA Title V Operating Permit was issued to DPG by UDAQ in February 2001.

Under the new source review permit program, DPG has a consolidated approval order for the CCTF, LSTF, BMTF, Cryofracture Test Facility, smoke and obscurant testing, and OB/OD activities.

Installation-wide, particulate matter less than 10 microns (PM_{10}) is emitted in much greater quantities than other criteria pollutants. The major source of PM_{10} is fugitive dust created by vehicles traveling on unpaved roads and off-road during testing,

training, and routine mission support. Fugitive dust is not subject to UDAQ permitting requirements. The source which contributes the most to PM_{10} emissions subject to UDAQ permit limits is smoke and obscurant testing, which contributes about 93 percent of the PM_{10} emissions subject to UDAQ permit limits.

Infrastructure and maintenance (which includes emissions from boilers and generators, fuel management, and landfill emissions), is the major source of sulfur oxides and nitrogen oxides emissions at DPG. Take-offs and landings at MAAF are responsible for about 67 percent of carbon monoxide emissions.

DPG emits approximately 3 tons per year of total hazardous air pollutants (HAPs), which is well below the "major" source threshold of 25 tons per year. DPG is therefore an "area" source under EPA's and UDAQ's regulations for control of HAPs (40 CFR Part 63 and Utah Air Conservation R307-214). The sources contributing greater than 50 percent of the total weight of each individual HAP are boiler operations, fuel dispensing, and solid waste landfill operations.

UDAQ controls releases of military-specific material to air through its new source review permitting program. Military-specific material emissions are related to testing and training at DPG that occur primarily during the summer months. Tests that involve the controlled release of materials, such as smokes, obscurants, and tracer gases, are conducted no closer than 2 km (1.2 miles) from DPG's boundary.

Emissions from wildland fires are part of the natural background of the region and are also associated with mission activities including testing and training. Smoke from wildland fires is a substantial source of PM_{10} and other pollutants such as volatile organic compounds and carbon monoxide.

ES – 3.4 Biological Resources

DPG has a variety of vegetated communities comprised of a diverse group of plant species that support a variety of wildlife. These plant communities range from the low laying valley floors to the higher elevations of the Cedar Mountains and Granite Peak. DPG wildlife resources include 49 species of mammals, 213 species of birds, 13 species of reptiles, 1 species of amphibians, and at least 1,540 species of invertebrates. DPG does not have any species of fish present.

DPG vegetation classifications have been grouped into six broader categories based on vegetation height:

- The pygmy forest community is dominated by one tree species, the juniper, and covers about 4 percent of DPG lands. Cursory investigations have indicated that the mean juniper tree age on DPG is 250 years.
- The high desert scrub association includes greasewood, sagebrush, shrubsteppe, and Great Basin Arid Shrubland communities. The high desert scrub association covers about 10 percent of DPG. These communities occur at the bases of Granite Peak and the Cedar Mountains, and up the slopes of the smaller mountains such as Camels Back Ridge, Wig Mountain, and Simpson Buttes. Differences in soil, topography, and vegetation make the locations of this community highly variable. Only a small patch of pure sagebrush remains on DPG. Although greasewood is the dominant species in this community, cheatgrass has now become a co-dominant species.
- The low desert scrub association reflects the low shrubby appearance of the Cold Desert Chenopod and Salt Desert Shrub vegetation, but is interspersed with taller dark green greasewood shrubs. The pickleweed community is also included in the low desert scrub classification, and is the predominant vegetation on DPG. The low desert scrub association covers about 52 percent of DPG with about two-thirds of this total consisting of pickleweed. In comparison to other vegetation classes, this community is sparsely vegetated with no invasion of exotic annuals.
- The vegetated dunes community supports the greatest diversity of plants on the valleys of the Great Basin, including the DPG area. The dunes hold underground water available to plants at reachable depths; and, relative to the alkali soil typical of the valley floor adjacent to the dunes, the dunes' soil is capable of supporting plants. The microclimates produced by shifting dune topographies promote unique combinations of both plant and animal species. This biotic community covers about 2 percent of DPG total acreage and is considered a biotic oasis in the surrounding, austere ecology of the valley flats at DPG.
- The annual grasslands community covers about 6 percent of DPG. Disturbances from natural and human-caused fires and military maneuvers have allowed for substantial displacement of natural vegetation by exotic annuals (weeds). The most widespread exotic annual is cheatgrass. In the intermountain west, cheatgrass often outcompetes the native vegetation and is now a dominant species in the rangelands.

- The barren community consists of two areas void of vegetation: the playa and active dunes. This community consists of barren flats underlain by clay/salt intermixtures with a relatively high salt content and the active dunes. The water table in the flats is within 1.5 meters (5 ft) of the surface, and typically is at the surface in winter and early spring months, thereby forming extensive playa lakes. The playa flats form the majority of the west-central and northwest portions of DPG west and north of Granite Peak. Playa covers about 25 percent of DPG acreage. The playa flats are normally devoid of both vegetation and wildlife, except for occasional transients. However, the ecological importance of this community lies in its use by shore birds and migrating waterfowl during the winter and spring months, when standing water covers the flats. This characteristic was used to designate a portion of this community as wetlands using U.S. Army Corps of Engineers criteria (ESA, 1994). Active dunes, unlike the stabilized, vegetative dunes, are void of vegetation. These dunes are constantly shifting shape and location due to wind erosion.

Cryptobiotic soils are not considered a separate vegetation community since they are distributed though several vegetation communities, but are an important biological resource on DPG. Cryptobiotic soil allows for accumulation of moisture for vascular plants in an otherwise dry climate (Belnap, 1998) and contributes nutrients, principally nitrogen, to the soil for other plant species. The exact amount of cryptobiotic soils present on DPG has not been measured.

Vegetative trends over the last 40 years show that the barren community is stable at DPG, whereas the grasslands community is increasing. The low desert scrub, high desert scrub, and pygmy forest communities are all decreasing with the exception of pickleweed in the low desert scrub classification which is stable. Invasion of exotic annuals, such as cheatgrass, has been substantial since the 1950s. In areas that are not naturally susceptible to fires, such as greasewood communities, cheatgrass has been the fuel factor in allowing these areas to burn in recent years.

Wildlife categories existing at DPG include insects, reptiles and amphibians, mammals, and birds. Surveys have been conducted on a variety of wildlife species:

- Historical inventories identified 1,300 insect and 150 arachnid species at DPG (Woodbury, 1964).
- Reptiles and amphibians are well represented in wildlife surveys at DPG; however the efforts thus far cannot be considered complete surveys. Species of special interest include those that were historically present at DPG, but have not

been recorded since before 1955 including the short-horned lizard and sagebrush lizard.

- Vegetated dunes were found to have the most diverse species of small mammals as well as the least amount of intrusion by exotic annuals such as cheatgrass, peppercress, bur buttercup, tumbleweed, and musk mustard.
- Pronghorn and feral horses are the main large herbivore groups at DPG, although the mule deer population is increasing. Feral horses at DPG are ancestors of animals that escaped from Skull Valley. In some areas, horses are thought to out-compete the native pronghorn for forage.
- The most common carnivore at DPG is the coyote, although there is also a population of kit fox and bobcats.
- Birds at DPG are typical of the Great Basin and of a distinctive combination of species that also occurs beyond the Great Basin in semiarid and montane habitats. The high desert scrub habitat (including juniper, greasewood, and shrubsteppe) is a high use area for migratory birds.

A few Federally endangered, threatened, and candidate plant and wildlife species, as well as state threatened and endangered species and sensitive species of management consequence, potentially occur or have been documented on DPG. The sensitive species (including threatened and endangered) likely to occur or documented at DPG are not year-round residents.

The Army, in cooperation with the U.S. Fish and Wildlife Service, has specific guidelines for managing threatened and endangered species, should they become residents of DPG. Federal and state special status plant and wildlife species include:

- The Dune fourwing saltbush may be found in association with the vegetated dunes at DPG. This species is a species of concern, which still occur in numbers adequate for survival, but whose population has been greatly depleted and is declining in numbers, distribution, and/or habitat.
- The Ute ladies tresses, a Federally threatened orchid, occurs in wetland habitats just outside DPG's southern boundary. This threatened plant has not been found at DPG, but may occur there (Johnson, 1999).
- The peregrine falcon is a transient to DPG, and has not been found to nest within DPG boundaries. Bald eagles are often observed at DPG during the winter. Two other hawks, the ferruginous hawk (state threatened) and the Swainson's hawk (state sensitive), were found nesting at DPG from 1993 to 1995. The burrowing owl, a state sensitive species due to declining numbers, has also been found

nesting at DPG. The mountain plover, black tern, and long-billed curlew have been observed at DPG in the pickleweed area during wet periods.

- There are two bat species of concern. The fringed myotis was documented in Tooele County, but was not captured during the 1995 bat survey at DPG (AGEISS, 1996). Ringtails have been observed at DPG, but data on their distribution is unavailable.

ES – 3.5 Socioeconomics

DPG and the other military installations in the area played vital roles in the nation's defense program through the Korean War, Cold War, and to recent times. Consequently, the Federal government has been the major industry in Tooele County throughout much of the recent past, with DPG being a major employer in Tooele County. Recent reductions in Federal government activity are part of a shift in the composition of the Tooele County economy.

Tooele County encompasses the geographic area within which existing or foreseeable impacts of DPG's mission are discernible. DPG's primary locational characteristic with respect to socioeconomics is its remoteness from other communities. The closest urban area is the City of Tooele (1999 population of 18,460), about 61 km (38 mi) from DPG. Other towns located closer to DPG are all much smaller and offer few services with limited housing availability.

About 65 percent of the DPG work force commutes to DPG from communities in Tooele County and along the Wasatch Front. Consequently, the social and economic linkages associated with installation operations extend beyond DPG's boundaries.

Population forecasts indicate continuation of the strong population growth that has recently occurred in Tooele County. By 2010, the county's population is forecast to increase nearly 70 percent compared to the 1996 population. Within Tooele County, growth is expected to be concentrated in the Cities of Tooele and Grantsville and the northeastern portion of Tooele County. Fueled by the growth and demand emanating from the Salt Lake City area, local residential development has been very active in Tooele County. Virtually all of the new residential construction has occurred in the northeastern portion of the county. This area offers ready access to the Wasatch Front via I-80. Little new residential development has occurred in Skull Valley.

Funding and work force reductions at DPG have resulted in declining occupancy of the available housing units. Most of the barracks were closed in the mid-1990s and

part of the family housing inventory was placed on inactive status. In 1997 and 1998, 73 of the oldest family housing units were demolished.

Provision of public services at DPG reflects both the installation's remoteness and the historical context of its mission. DPG's remote location meant that no housing, communities, or service providers were located in the immediate vicinity. Consequently, the Army was responsible for the construction, operation, and maintenance of essential services. This need gave rise to English Village, which was designed to serve as a self-sufficient community.

Tooele County provides county-wide administrative services, planning and zoning, and law enforcement. A variety of other public services providers serve various locations throughout the county. Given the residency patterns of DPG's work force, few of the service demands faced by these providers are attributable to DPG.

The Tooele County School District, based in the City of Tooele, is responsible for public primary and secondary education throughout the county. The district operates 19 schools, including Dugway Elementary and Dugway High School. The schools at DPG also serve students from the surrounding area, including Terra and Skull Valley.

ES – 3.6 Environmental Justice

Executive Order (EO) 12898, Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations, requires identifying and addressing disproportionately high and adverse human health or environmental impacts of Federal programs, policies, and activities on minority populations and low-income populations.

EPA's Office of Environmental Justice defines environmental justice as "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income….Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequence." This goal of "fair treatment" is not to shift risks among populations, but to identify potential disproportionately high adverse impacts on minority and low-income populations and identify mitigation measures, if necessary, to lessen these impacts.

Based on available data, minority and low-income populations are believed to exist near DPG. These populations include the two nearby Native American reservations and the Ibapah-Gold Hill area.

ES – 3.7 Land Use and Access

Most of Tooele County is isolated and undeveloped because of the harsh physical environment. Agricultural activities in much of the county are constrained because of limited arable land. The isolation and harsh physical environment characteristics have been seen as ideal for Federal and military land uses.

Most land in Tooele County is under the administration of Federal agencies, with Bureau of Land Management (BLM) controlling about 33 percent of county lands and military uses accounting for about 36 percent of county lands.

Two emerging regional land use trends involve hazardous/radioactive waste disposal sites, and the increasing importance of recreation and tourism. With respect to waste disposal, there are several private hazardous waste disposal or incinerator sites in Tooele County and Federal facilities such as DPG and Deseret Chemical Depot.

The Tooele County General Plan (Gillies, 1995) provides a planning framework to guide decisions about the future of the county. The plan does not specifically address land use issues within DPG boundaries.

The land within DPG is primarily dedicated to military missions and activities. DPG's land use management philosophy and practice is that of "dominant use," which ensures that the military-related missions have ultimate priority over all other potential land uses.

DPG's missions and activities require most land to be reserved for firing/bombing ranges, test grids, training areas, etc. These types of activities require large open areas with associated safety/buffer zones and restricted access to and within DPG. No DPG land acquisitions or land disposals are a part of the Proposed Action for the Future Programs EIS.

Generally, the major testing and training areas are in the central portions of DPG, away from on-installation or off-installation residential areas. These locations help to provide a substantial buffer between DPG activities and persons who might be affected by these activities. DPG outdoor activity locations have been chosen primarily based on activity scale and areas that represent realistic conditions necessary to ensure that equipment and procedures will function reliably under battlefield conditions.

Besides the mission-related and support land uses, there are few other land uses at DPG. There has been limited hunting of big game on a small portion of DPG lands, and other recreation activities are very limited. Hunting, recreational vehicle use,

and other public recreational activities occur on public lands managed by the BLM south, west, and north (Rowley Junction area) of DPG.

Access to DPG is granted only to those individuals with an established need to enter the installation; a car pass or a visitor's pass issued by the DPG Law Enforcement and Security Division is required. Visitors representing foreign governments or businesses are escorted by DPG personnel during their visits. There are special location and facility restrictions for certain representatives of foreign governments under terms of the Intermediate Range Nuclear Forces Treaty.

ES – 3.8 Cultural Resources

The term "cultural resource" refers to any prehistoric or historic building, site, structure, object, and/or environmental context that has cultural, historical, or spiritual significance. The legal definition of a cultural resource depends on the law or regulation in which it is used. The supporting legal cornerstone for cultural resources is the National Historic Preservation Act (NHPA). The NHPA defines historic properties as districts, sites, buildings, structures, or objects included in, eligible, or potentially eligible for inclusion in the National Register of Historic Places (NRHP) and incorporates artifacts, records, and remains related to these properties.

A number and variety of cultural resources have been identified at DPG. Cultural resources at DPG include both prehistoric and historic isolated finds, such as pieces of broken pottery and stone artifacts. Cultural resource sites, which are defined as clusters of three or more separate objects that occur in close association, have also been identified at DPG.

As of January 2000, cultural resource surveys at DPG had examined about 2.6 percent of DPG lands. Because cultural resource data acquisition and surveys are ongoing at DPG, the number of identified sites is always increasing. About 34 percent of the archaeological sites that have been recorded at DPG are of NRHP quality.

Prehistoric sites at DPG and across most of the region are largely represented by open scatters of flaked stone tools, tool manufacturing debris (flakes), and stone grinding implements. These cultural resources were left by Native Americans who have occupied the region throughout the past 11,000 years.

Historic resources are defined as sites, structures, and artifacts identified as Euro-American in origin. Most historic resources in the Great Basin date to the past 100 years, including all of the sites and materials identified at DPG. Nonmilitary historic

sites identified on DPG lands include structures, camps, and trash scatters (DPG, 2001). One important historic site at DPG which is also listed on the NRHP is the Lincoln Highway Bridge.

Some military-related properties at DPG have been found to be potentially eligible for the NRHP. The military-related property types include test and evaluation facilities, control and instrumentation buildings, a training grid, World War II operational support facilities, and research and development laboratories (AGEISS, 1998a).

ES – 3.9 Traffic and Transportation

The principal regional roadway network accessing DPG includes three state roads (SR 199, SR 196, and SR 36) and Interstate I-80. The primary access to DPG is via the main entry gate and security checkpoint located on DPG's eastern boundary. All vehicles and occupants entering DPG are subject to inspections, prior to being allowed entry.

Regional roadway access is vital to DPG's mission because of the installation's remote location, its dependency on the surrounding region for support services, and the large percentage of its work force that resides off-installation and commutes to DPG. Trucks using regional roadways transport virtually all supplies, equipment, and materials destined for DPG.

The main road within DPG's boundaries is known as Stark Road. It is a paved two-lane road that serves as the central arterial road for DPG. From the main gate, it proceeds generally to the west, linking English Village, Ditto, and areas in the western portion of DPG. A network of paved roads, providing access to other activity centers and serving the local circulation needs within those centers, connects to Stark Road at various locations. A total of 209 km (130 mi) of paved roadways are located within DPG.

In addition to the paved roadway network, there are approximately 193 km (120 mi) of secondary roads on DPG. Secondary roads are graded, but unpaved. These roads provide access to many test ranges and are used by active and reserve military units during training activities conducted at DPG.

ES – 3.10 Visual Resources

The visual resources of DPG include the natural and man-made physical features that provide the landscape its character and value as an environmental resource. Landscape features that form a viewer's overall impression about an area include

landform, vegetation, water, color, adjacent scenery, scarcity, and constructed modifications to the natural setting.

The natural setting of DPG is panoramic, scenic, open, and expansive. The views in and around DPG are typical of many areas within the western U.S., with views of valleys, mountain ranges, and uninterrupted flat and barren lands. The general topography of the region consists of a series of north-south oriented mountain ranges with broad intervening valleys. Occasionally, the valleys are punctuated by "island" mountains or ridges that may occur independently of distinct ranges (e.g., Granite Peak).

While persons on land surrounding DPG may be aware of the existence of DPG (e.g., through maps, signage, or access prohibitions), these persons generally do not see DPG activities or facilities because of the security requirements preventing public access and the buffer zones surrounding DPG activity sites.

The vast DPG land holdings and AF lands to the west and north of DPG generally serve as a buffer to any views of DPG from outside the installation's boundaries, except for some elevated viewpoints of DPG from the mountain ranges south of DPG boundaries.

Aircraft using MAAF facilities, smokes and illuminant testing, and some training exercises are the major identifiable DPG activities which are occasionally seen from off-installation viewpoints.

Safety and functionality are the primary consideration of use of DPG land to support mission-related and support activities. Exterior appearance of structures and landscaping are considered only when all other functional needs are fulfilled.

ES – 3.11 Noise

Noise is commonly considered as an undesirable sound. Noise is considered a source of pollution because it can be a public health hazard, causing hearing impairment and undue psychological stress.

Noise from DPG activities results from several primary sources:

- Aircraft noise and sonic booms from air testing and training activities
- Detonations from conventional munitions, ECRT, and other testing activities, and Explosive Ordnance Disposal activities

- Artillery firing from conventional munitions and smoke, obscurant, and illuminant testing activities, and ground training activities
- Demolition and construction activities

Noise from aircraft and sonic booms is the primary source of noise in and around DPG, and causes the most concern to the public. However, noise from aircraft and sonic booms is caused by air training and testing activities conducted by the AF on the UTTR, and is not controlled by or the responsibility of DPG. Therefore, these noise sources are discussed in Section ES – 5.0, Cumulative Impacts.

The Army's obligations for noise management at DPG under Federal law are satisfied through implementing the Environmental Noise Management Plan (ENMP), formerly known as the Installation Compatible Use Zones program. The goal of the ENMP is to identify noise impacted areas so that the public and government officials, working with the Army, can minimize noise impacts through land use planning and control. The State of Utah has no noise control regulations applicable to DPG activities on- or off-installation.

ES – 3.12 Health and Safety

Occupational health and safety procedures are provided in various types of technical documents that are designed to protect the health and safety of workers within the DPG boundaries. There are specific health and safety programs and regulation requirements for the DPG mission activities that must be followed to ensure the protection of workers' health and safety.

The accident files in DPG's health and safety office indicate that most of the injuries that occur at DPG are minor, such as sprained ankles and minor lacerations. There have been two deaths as a result of accidents in the last 15 years which involved a vehicle rollover in 1995 and a parachute jump in 1990.

DPG's overall injury/illness incident rate was generally less than national averages for comparative industrial categories for the 1995 through 1998 period.

The DPG Disaster Control Plan (DCP) specifies DPG emergency evacuation procedures for potential emergencies caused by DPG testing activities (DPG, 1986). There has never been an emergency evacuation at DPG requiring the use of procedures in the DCP. Other emergency plans in place at DPG include the Biological Emergency Response and Assistance Plan, the LSTF Emergency Evacuation Plan, and the Tooele County Emergency Operations Plan.

ES – 3.13 Materials and Wastes

DPG uses a variety of materials and generates a variety of wastes in support of its mission activities. The major materials used at DPG include:

- Biological agents and simulants
- Chemical agents and simulants
- Hazardous materials
- Munitions and energetics (including propellants, explosives, and pyrotechnics)
- Pesticides, herbicides, and rodenticides
- Petroleum fuels
- Smokes, obscurants, and illuminants

Wastes include those generated from DPG operations (referred to as installation generated wastes), and those generated as a result of previous DPG activities (referred to as installation restoration wastes).

Use of materials and generation of wastes are managed and controlled by a complex legal, regulatory, and management framework.

DPG attempts to minimize the amount of materials used and wastes generated through implementation of its pollution prevention program.

ES – 4.0 Impacts of the Proposed Action and Alternatives

The EIS presents an analysis of the potential environmental and socioeconomic consequences that could result from implementing DPG's Proposed Action or the alternatives to the Proposed Action.

An environmental impact is a modification in the status of the environment as it presently exists, or is anticipated to exist in the future, as a result of the Proposed Action or alternatives. Environmental impacts can:

- **Be beneficial or adverse.**
- **Occur directly as a result of the action or indirectly as a secondary result. Direct impacts are caused by, and occur at the same time and place, as a specific action. Indirect impacts are reasonably foreseeable and may be attributable to a particular action, but they occur later in time or farther removed in distance from the action than a direct impact.**
- **Be long-term (greater than 10 years) or short-term (less than 10 years) in duration.**
- **Be of small magnitude with negligible change. An identifiable change that does not constitute a substantially adverse impact on the environment is a nonsignificant impact.**
- **Be an identifiable major adverse change to the environment. These impacts are known as significant impacts. Significant impacts are defined by their context and intensity. Generally, impacts are identified within the context of the project area, and the extent these impacts are perceptible beyond the project area. Intensity relates to the magnitude of the impact on environmental resources and the amount of controversy or risk.**

Factors used to evaluate context and intensity for each environmental resource include:

- Resource sensitivity, or the probable response of each resource to an action
- Resource quality, or the present condition of the resource potentially affected
- Resource quantity, or the amount of the resource potentially affected
- Duration of impact, or the time over which the resources would be affected

An impact that violates a law or regulation imposed for the protection of the environment would be considered significant. Legal/regulatory and other criteria to evaluate impact significance are identified as "significance criteria."

Extensive mitigation measures designed to reduce potential environmental impacts have been incorporated into DPG's existing operations. When impacts would remain after DPG's mitigation measures have been applied to future activities, additional mitigation measures are identified within the EIS. Residual, or unavoidable, impacts are those impacts that are projected to occur after all mitigation has been applied.

DPG's existing mitigation activities would continue under the No Action Alternative. This installation-wide EIS has identified a broad array of proposed mitigation measures that would supplement DPG's existing mitigation activities to avoid or lessen potential future impacts. These proposed mitigation measures are relevant to, and would be implemented for, all action alternatives (the Proposed Action, Decreased Mission Alternative, and the Maximum Expanded Mission Alternative). However, the timing and intensity of these mitigation measures would vary by alternative.

For example, if the Decreased Mission Alternative was chosen as DPG's future, the proposed mitigation measures could potentially be implemented at a slower and less intensive manner than for the Proposed Action, because the magnitude, duration, and location of impacts would be different. Concomitantly, if the Maximum Expanded Mission Alternative was chosen, proposed mitigation measures would likely be implemented at a faster and more intensive manner than for the Proposed Action.

Since the EIS broadly assesses the potential environmental impacts, mitigation measures must be somewhat broad as well. These broad mitigation measures can be clarified, if necessary, within the ROD after a decision has been reached. In order for any mitigation measures to be enforceable, they must be clearly defined in the ROD even if they are discussed in the EIS text. Furthermore, any future proposed action requiring case-specific NEPA analysis would likely include more specific mitigation measures that would support the broad mitigation measures identified in this EIS.

Table ES – 7, Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts, presents a comparative analysis of the potential impacts and mitigation measures associated with the Proposed Action and each alternative to the Proposed Action considered in this EIS.

Significance criteria used in the impact analysis and a summary of residual impacts for each resource area are presented after Table ES – 7.

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Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Geology and Soils	Soil Physical Quality	♦ Increased soil compaction and erosion ♦ Reduced soil productivity ♦ Increased exposure of buried munitions	Same as the Proposed Action but less	Soil compaction and erosion would be considerably reduced in the frequency and lateral extent of occurrence	♦ Dramatic increase in soil compaction and erosion ♦ Soil productivity would be reduced to nonproductive	♦ Continue implementation of the Army ITAM Program ♦ When possible, limit tracked vehicles and prohibit cross-country use ♦ When possible, without jeopardizing realistic training, vary intensity of training and testing seasonally to reduce the impact on vegetation and to avoid high fire conditions ♦ When possible, use only existing roads, or if new roads need to be created, place in areas that would minimize impacts to vegetation ♦ When feasible, construct new buildings and roads in current built-up areas ♦ Rotate use of training areas to allow for a 4-7 year rest period ♦ Continue to monitor established photopoints in impact areas for seasonal and yearly comparison of habitat ♦ Focus ground training in areas with existing high ground disturbance; other areas used should follow compensation guidelines within the MTAMP and the INRMP ♦ Implement management of the Paladin Weapons System as described in the MTAMP ♦ Manage all fires in accordance with the DPG Fire Management Plan ♦ Complete greenstrip firebreaks established by ITAM and test with new and better fire resistant and site adapted species ♦ Obtain financial compensation from training missions for fire management or revegetation according to the MTAMP and the INRMP	Significantly reduced soil productivity would occur.
	Soil Chemical Quality	Potential accumulation of SVOCs and heavy metals in soils	Same as the Proposed Action but less	Same as the Proposed Action but much less chemical accumulation in soils	Accumulation of chemicals in soil to the extent that chemical uptake by humans, plants, and animals could potentially result in adverse effects	♦ Continue the IRP program to address contaminated soils at HWMUs and SWMUs ♦ Implement investigation of testing and training ranges in use when they become inactive ♦ Include appropriate monitoring for SVOCs in soil	Chemical degradation of soil would still occur.
	Geologic Features and Resources	♦ Presence of UXO at DPG renders development of geologic resources impossible due to safety conditions ♦ Possible destruction of some metallic and non-metallic mineral resources ♦ Potential damage to Devil's Postpile, a unique geologic feature	♦ Presence of UXO at DPG renders development of geologic resources impossible due to safety conditions ♦ Potential damage to Devil's Postpile, a unique geologic feature but less than the Proposed Action	Approximately the same as the No Action Alternative	Approximately the same as the Proposed Action	♦ Continue to prohibit any development and/or use of mineral resources at Granite Peak ♦ Continue enforcing restrictions in the vicinity of the Devil's Postpile from use by ground troops	Development of geologic resources would remain impossible due to the likely presence of UXO virtually in perpetuity at DPG.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Water Resources	Surface Water Quantity	♦ Estimated 10 percent increase in wastewater ♦ Expansion of Baker Lagoon provides for a sufficient retention capacity for the undersized wastewater treatment facility ♦ Requires construction permit from UDWQ ♦ Increase in localized surface water runoff	Partially-treated wastewater would continue to be discharged to the ground	♦ Estimated 10 percent decrease in wastewater ♦ Partially-treated wastewater would continue to be discharged to the ground	♦ Estimated 25 percent increase in wastewater ♦ Expansion of the Baker Lagoon provides for a sufficient retention capacity for the undersized wastewater treatment facility ♦ Expansion of the Baker Lagoon requires construction permit from UDWQ ♦ Increase in localized surface water runoff ♦ Would require expansion of English Village Wastewater Treatment Facility	♦ Implement best management practices, such as installing metering devices at lagoons and periodically calibrate and maintain them ♦ Use silt fences and berms during construction projects to minimize surface water runoff and soil erosion	♦ Localized effects from runoff would occur. ♦ Some soil erosion would still occur.
	Surface Water Quality	♦ Potential surface water degradation from deposition of airborne mission materials in the springs near the playa, the playa, and Fish Springs National Wildlife Refuge ♦ Potential physical and chemical surface water degradation at the springs in the Cedar Mountains and Whiskey Jim Springs from ground training ♦ Expansion of the Baker Lagoon would minimize the potential for migration of partially-treated wastewater to the playa and into the groundwater ♦ Requires construction permit from UDWQ	♦ Partially-treated wastewater would continue to be discharged to the ground ♦ Degradation of surface water is approximately the same as the Proposed Action; however, Whiskey Jim Springs would not be affected	♦ Partially treated wastewater would continue to be discharged to the ground ♦ Degradation of surface water less than the Proposed Action and Whiskey Jim Springs would not be affected	♦ Surface water degradation from deposition of airborne mission materials in the springs near the playas, the playa, and Fish Springs National Wildlife Refuge to the extent that the health of humans, plants, and animals could be impacted through chemical uptake ♦ Physical and chemical surface water degradation could also result at the springs in the Cedar Mountains and Whiskey Jim Springs to the extent that the health of humans, plants, and animals could be impacted through chemical uptake ♦ Expansion of the Baker Lagoon would minimize potential for migration of partially-treated wastewater to the playa and into the groundwater ♦ Requires construction permit from UDWQ	♦ Enforce restrictions regarding bivouacking and ground training near springs ♦ Continue use of wildlife guzzlers that DPG has established in the area near the springs in the Cedar Mountains ♦ Conduct periodic water quality monitoring of the springs in the Cedar Mountains ♦ Conduct periodic water quality monitoring at the springs near the playa, including monitoring support at Fish Springs National Wildlife Refuge, and at select locations within the playa	Insignificant chemical and physical degradation to water quality could occur.
	Groundwater Quantity	♦ Anticipated increase of water use of 10 percent would cause slight lowering of water table but (less than historical water use at DPG) ♦ No identifiable impacts to aquifer recharge	No identifiable impacts	Less groundwater usage than the Proposed Action and no additional lowering of water table	♦ Anticipated increase of water use of 25 percent would slightly lower water table (still less than historical water use at DPG) ♦ No identifiable impacts to aquifer recharge	None needed	Insignificant additional water use and a slight lowering of water table would occur.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Water Resources (Continued)	Groundwater Quality	Provides protection of groundwater quality by eliminating the need to discharge partially-treated wastewater to the surface at the Baker Lagoon	Partially-treated wastewater would continue to be discharged to the ground	Partially-treated wastewater would continue to be discharged to the ground	Provides protection of groundwater quality by eliminating the need to discharge partially-treated wastewater to the surface at the Baker Lagoon	♦ Continue groundwater monitoring programs already established at English Village ♦ As a best management practice, properly abandon all nonessential, inactive water supply and test wells ♦ Continue ongoing studies (not associated with this EIS) about the nature and extent of potential groundwater contamination at identified areas within DPG ♦ For a new drinking water system at Carr, update the Drinking Water Source Protection Plan and monitor and test the pump	No new residual impacts
Air Resources	Air Quality	♦ PM_{10} emissions and fugitive dust would be principal emission types ♦ Existing permits would allow projected increased emissions in continuing programs ♦ If any new program area requires new permits or modification of existing permits, DPG would apply to UDAQ for approval ♦ Emissions from wildland fires would continue with short-term impacts from PM_{10}, CO, and VOCs ♦ Existing controls would be sufficient to prevent release of biological and chemical agents under normal conditions	♦ Existing emissions levels would remain the same as current conditions ♦ Existing permits would be sufficient for continued operations	♦ Emission levels would be reduced compared to the No Action Alternative ♦ Existing permits would be sufficient for continued operations	♦ Emission levels would be substantially increased compared to the Proposed Action ♦ Existing permits may require modification, pending air quality modeling results	♦ Evaluate substitutes for military-specific materials that potentially impact air ♦ Investigate fugitive dust control methods for military training on unpaved roads and in training areas ♦ Prepare models of fugitive dust generated from training exercises to better understand its effects on ambient air quality values ♦ Manage all fires in accordance with the DPG Fire Management Plan ♦ Obtain financial compensation from training missions for fire management according the MTAMP and the INRMP	Air emissions would occur as long as DPG implements its mission, but the permitting process would keep emissions within regulatory framework.
Biological Resources	Vegetation	♦ Increased direct disturbance or destruction of vegetation ♦ Soil compaction and erosion ♦ Decrease in cryptobiotic soil ♦ Increase in bare ground ♦ Trenching and cratering of affected lands ♦ Wildland fires would continue to be caused by both natural causes and DPG mission-induced causes ♦ Wildland fires are a significant disruption to the ecology of the affected area, and would promote the infusion of invasive plants such as cheatgrass ♦ Likelihood of spill would not increase; potential for a spill cannot be eliminated ♦ Smokes and obscurants, including fog oil, could cause direct and indirect loss of vegetation	Same as the Proposed Action but with a lesser magnitude of impact	Same as the Proposed Action, but with a lesser magnitude of impact	Same as the Proposed Action, but with a greater magnitude of impact	♦ Continue implementation of the Army ITAM Program ♦ Educate users of DPG lands on protecting, preventing damage, and mitigating damage to natural resources ♦ When possible, limit tracked vehicle use and prohibit cross country use ♦ When possible, without jeopardizing realistic training, vary intensity of training and testing seasonally to reduce the impact on vegetation and to avoid high fire conditions ♦ When possible, use only existing roads, or if new roads are needed, place them in areas that would minimize vegetation impacts ♦ When feasible, construct new buildings and roads in current built-up areas ♦ Obtain financial compensation from training missions for fire management or revegetation according to the MTAMP and the INRMP ♦ Rotate use of training areas to allow for a 4-7 year rest period ♦ Avoid training in shrub and juniper areas ♦ Establish more permanent vegetation plots in training areas to study changes in vegetation ♦ Continue to monitor established photopoints in impact areas for seasonal and yearly comparison of habitat ♦ Depending on need, maintain and use existing quarry sites, and permanently close others ♦ Focus ground training in areas with high existing ground disturbance; other areas used should follow compensation guidelines within the MTAMP and the INRMP ♦ Manage all fires in accordance with the DPG Fire Management Plan	♦ Vegetation would continue to be damaged or lost with mission activities, especially ground training. ♦ Restoration of damaged or lost vegetation is a long-term process. ♦ Reversal of invasive plant problem needs long-term management. ♦ Wildland fires would still occur. ♦ Any wildland fires, regardless of cause, would result in extensive ecological damage. ♦ Potential for spills can be minimized but cannot be totally eliminated. ♦ Air emissions can be managed but would still occur.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Biological Resources (Continued)	Vegetation (Continued)					♦ Complete greenstrip firebreaks established by ITAM and test with new and better fire resistant and site adapted species ♦ Clean up spills immediately and monitor the site ♦ As part of test planning and where appropriate, monitor dispersion clouds to validate models and monitor biological resources ♦ Limit use of fog oil on extremely windy days ♦ Minimize the spread of weeds through noxious and nuisance weed management ♦ Minimize ground disturbance as specified in the INRMP ♦ Implement biomonitoring program at the landscape level ♦ Quantitatively assess vegetation using permanent sample plots	
	Wildlife	♦ Smokes/obscurants, dust, and other materials in large quantities could cause direct and indirect loss of vegetation and affect wildlife respiratory systems ♦ As land is disturbed, vegetation comprising wildlife habitat can be damaged or lost ♦ Habitat disturbance or loss can result in indirect impacts to wildlife including: ▪ Reduced ability to hunt and provide for itself ▪ Displacement into less favorable habitats ▪ Interruption of feeding or nesting ♦ Potential decline in the overall survival rates for some species ♦ Noise and overhead motion cause environmental stress to wildlife (especially the startle effect), which has highest impact during reproductive and over wintering periods ♦ Human presence affects wildlife patterns and behaviors in many ways	Same as the Proposed Action, but with less potential for impacts compared to the Proposed Action	Same as the Proposed Action, but with less potential for impacts compared to the No Action alternative	Same as the Proposed Action, but with higher potential for impacts compared to the Proposed Action	♦ Avoid using ordnance or testing near permanent surface water sources ♦ As part of test planning and where appropriate, monitor dispersion clouds to validate models and monitor biological resources ♦ Limit use of fog oil on extremely windy days when large dust particles may be present ♦ Investigate fugitive dust control methods for military training on unpaved roads and in training areas ♦ Identify and protect important habitats to each species where possible ♦ Use temporary closures to avoid training and testing in areas of high wildlife population concentrations, nesting sites or wintering ranges ♦ Minimize ground disturbance as specified in the INRMP ♦ Monitor patterns, trends, and health of wildlife species as needed on both a local scale and installation-wide scale ♦ Create a new vegetation map every 5 years to monitor vegetation changes ♦ Implement a biomonitoring program at the landscape level ♦ Minimize vehicular-caused animal deaths by enforcing speed limits ♦ Report all injured or dead large animals immediately to DEP ♦ Minimize disturbance areas from construction of new buildings and roads	♦ Air emissions can be managed but would still occur. ♦ Some habitat disturbance and loss would still occur. ♦ Long-term health and survival of some species could be affected. ♦ Noise events can be managed but cannot be eliminated with DPG's mission. ♦ Human presence at DPG is necessary to implement its mission; impacts from human presence would still occur.
	Special Status Species	Negligible impacts to state threatened and endangered species and species of special concern within DPG boundaries	Same as the Proposed Action	Same as the Proposed Action	Same as the Proposed Action	♦ Enforce restrictions regarding bivouacking and ground training near springs and stable dunes ♦ Continue to protect Wig Mountain Cave and the abandoned mines on Granite Peak ♦ Protect Granite Peak and the winterfat-gray molly vegetation community	Potential for impacts to special status species or important habitats cannot be totally eliminated.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Socioeconomics	Employment and Economy	♦ No more than 10 percent increase in DPG employment ♦ Substantial increase in temporary personnel ♦ DPG continues as a major Tooele County employer and is a stable economic influence	♦ No change in existing conditions or impacts ♦ DPG continues as a major Tooele County employer and is a stable economic influence	♦ Reduced employment levels at DPG ♦ Loss of income from DPG employment within the regional economy	♦ Increased employment of up to 300 jobs at DPG ♦ Increased indirect employment opportunities supported by new direct jobs at DPG ♦ Increased importance of DPG in the regional economy	Maintain close contacts with elected officials, public administrators, the media, and community leaders in Tooele County informing them of important events and activities as they relate to DPG and its relationship with the regional community and economy	Additional employment and increase in temporary workers would continue DPG's importance in the regional economy.
	Population	♦ Minimal permanent population change ♦ Substantial increase in number of visitors and temporary personnel	No change in existing conditions or impacts	♦ Likely decline in the population of English Village ♦ Laid-off workers would likely leave area, but overall Tooele County population increase trend would not be substantially affected	Substantial population growth at English Village and off-installation due to direct and indirect employment increases	None needed	The number of temporary workers and visitors at DPG necessary to carry out mission elements would increase.
	Public Services and Infrastructure	No identifiable impacts	No change in existing conditions or impacts	♦ Decline in enrollments at DPG schools with potential for DPG school closures ♦ Potentially reduced community infrastructure at DPG	♦ Need for additional community services and infrastructure at DPG ♦ Need for additional mission-related infrastructure, likely requiring construction of new buildings and facilities	Increase focus on essential community support functions and facilities at DPG	Infrastructure at DPG would be improved and upgraded.
	Housing and Lifestyle	A higher level than current conditions	No change in existing conditions or impacts	♦ Potentially reduced family housing opportunities at DPG ♦ Potential adverse social and lifestyle changes for DPG residents	♦ Potential expansion of English Village housing opportunities including new housing construction ♦ Competition by new residents looking for off-installation housing with others in tight housing market	Increase focus on maintenance of existing housing facilities as noted in SDP findings and recommendations	Community stability and sense of community at English Village as a center for DPG residents would increase.
Environmental Justice	Disproportionate Impacts to Minority or Low-Income Populations	♦ Minority and low-income persons would not be disproportionately affected compared to the general population ♦ DPG would be in compliance with EO 12898	Same as the Proposed Action	Same as the Proposed Action	Same as the Proposed Action	♦ Encourage persons within minority and low-income populations and Native Americans to become involved in EIS process ♦ DOD, Army, and DPG are committed to fair and equitable treatment of all persons ♦ Consider locations of minority and low-income persons when locating new facilities and activities to ensure that these populations are not disproportionately affected	None
Land Use	Land Uses and Ownership	♦ Continuation of DPG's land-use philosophy of dominant use would ensure military mission has the priority over all other land uses at DPG ♦ No changes in DPG land holdings ♦ Very minor changes of land uses within DPG such as additional firing points ♦ DPG's operations would be consistent with Tooele County and Army land use plans	♦ Continuation of DPG's land-use philosophy of dominant use would ensure military mission has priority over all other land uses at DPG ♦ No changes in DPG land holdings ♦ DPG's operations would be consistent with Tooele County and Army land use plans	♦ Potential reduction in DPG land holdings ♦ Less intensive land use within DPG as mission programs are scaled back	♦ Potential acquisition of nearby BLM lands ♦ More intensive land use within DPG ♦ Potential land use changes within DPG land holdings to accommodate more intensive land use	Coordinate with BLM on land use issues such as DPG ground training impacts and regional land use issues	Use of DPG lands supports the "dominant use" land management philosophy, but also results in long-term impacts to land use.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Land Use (Continued)	Land Quality	♦ Reduced land quality in some areas due to wildland fires, ground disturbance, and potential damage to natural areas and special features ♦ Continued adverse effects from spread of invasive plants such as cheatgrass	Same as the Proposed Action	Same as the Proposed Action, but less than the Proposed Action	Same as the Proposed Action, but greater than the Proposed Action	♦ Continue coordination efforts with the BLM regarding the effects of DPG ground training, fire management, and the spread of invasive plants such as cheatgrass ♦ Continue implementation of the Army ITAM Program ♦ Adopt and protect the natural areas and special features on DPG land identified by the Nature Conservancy ♦ Implement a range management program for the rehabilitation of the desert environment in and around DPG ♦ Continue coordination efforts with the U.S. Fish and Wildlife Service on Fish Springs National Wildlife Refuge issues and impacts	Use of DPG lands supports the "dominant use" land management philosophy, but also results in long-term impacts to land quality.
	Access to DPG Facilities	No change in existing conditions and impacts	Same as the Proposed Action	Potential for reduced access to DPG facilities with some road closure	Increased access to DPG facilities with likelihood of new road construction	None needed	None
	Construction and Demolition Activities	♦ Proposed construction projects, would directly impact a minimal amount of DPG land ♦ Localized impacts involving changed land use and changes in drainage patterns, noise, and dust	♦ Fewer construction and demolition projects and associated impacts than the Proposed Action ♦ Localized impacts involving changed land use and changes in drainage patterns, noise, and dust	♦ Minimal new construction and potential for accelerated demolition of existing buildings ♦ Localized impacts involving changed land use and changes in drainage patterns, noise, and dust	♦ Accelerated construction program to provide for expanded mission facilities ♦ Localized impacts involving changed land use and changes in drainage patterns, noise, and dust	Consider topography, soils, drainage, water, vegetation, cultural resource location, access, utilities, and noise in all decisions regarding construction of new buildings and facilities	Minor localized impacts to land use, drainage patterns, noise, and dust would occur.
Cultural Resources	Paleontologic Resources	Potential damage to or unexpected discovery of paleontologic resources	Potential damage to or unexpected discovery of paleontologic resources but less than the Proposed Action	Approximately the same as the No Action Alternative	Approximately the same as the Proposed Action	Require notification of DEP regarding discovery of any observable paleontologic resource prior to construction work in the area	Some paleontologic resources could be lost.
	Unsurveyed Cultural Resource Sites	♦ Most of DPG land holdings would remain unsurveyed for cultural resources ♦ Potential direct and/or indirect damage to or loss of sites from mission-related activities, especially ground training	Same as the Proposed Action, although potential for direct and/or indirect damage or loss of sites would be slightly less than with the Proposed Action	Same as the Proposed Action, although potential for direct and/or indirect damage or loss of sites would be slightly less than in the No Action Alternative	Same as the Proposed Action, although potential for direct and/or indirect damage or loss of sites would be greater than with the Proposed Action	♦ Comply with the guidelines and procedures in the ICRMP and associated standard operating procedures to reduce potential for significant impacts ♦ Continue use of the priority system in determining cultural resource site locations to reduce potential for damage or loss of resources	♦ In some situations, protecting a cultural resource may not be possible – knowledge of lost site would be gained through site documentation and data recovery. ♦ Cultural resources that are not eligible for the NRHP or are not Native American sacred sites or traditional cultural places are not afforded further protection.
	NRHP-Eligible Cultural Resources	Potential for situations when the importance of a DPG mission activity exceeds the importance of an NRHP-eligible site, leading to loss of site but with required mitigation	Same as the Proposed Action	Same as the Proposed Action, but less likelihood of loss of NRHP-eligible site	Same as the Proposed Action, but more likelihood of loss of NRHP-eligible site	♦ Comply with the guidelines and procedures in the ICRMP and associated standard operating procedures to reduce potential for significant impacts ♦ Continue use of the priority system in determining cultural resource site locations to reduce potential for damage or loss of resources	In some situations, protecting a cultural resource may not be possible – knowledge of lost site would be gained through site documentation and data recovery.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Cultural Resources (Continued)	Sacred Native American Sites	Sites are afforded special protection when identified, but DPG has little information on sites within unsurveyed areas	Same as the Proposed Action	Same as the Proposed Action	Same as the Proposed Action	♦ Comply with the guidelines and procedures in the ICRMP and associated standard operating procedures to reduce potential for significant impacts ♦ Once sites are identified, they would be protected through the ICRMP and Federal legislation ♦ Continue consultation with Native American tribes on potential cultural resources site locations	No new residual impacts
	Access to Cultural Resources	♦ Increased access from more activity on DPG lands may occur in some areas, which could lead to increases in cultural resource vandalism and theft ♦ Access to Native American sacred sites may be improved	No change in existing conditions or impacts	If some roads are closed, access could be reduced	♦ Additional roads could result in greater access, thereby increasing the potential for vandalism and theft of resources ♦ Potential improved access to Native American sacred sites	Make all employees, contractors, tenant personnel, and other persons with access to DPG land aware of ICRMP and associated standard operating procedures protecting cultural resources	Some vandalism and theft would still occur.
Traffic and Transportation	Roadways	♦ Minor changes in traffic patterns and traffic volumes both within DPG land and off-installation; existing roads can handle potential volume increases ♦ Potential increase to road maintenance requirements on DPG roads ♦ Potential for increased conflict between ground training mobilization and local traffic ♦ Potential for small access roads for new facilities	No change in existing conditions or impacts	Decreases in traffic volumes associated with DPG operations on- and off-installation	♦ Increases in traffic volumes on- and off-installation associated with increased mission; existing roads can handle potential volume increases ♦ Higher traffic volumes increase likelihood for more road maintenance on- and off-installation	None needed	No new residual impacts
	Airports and Airspace	Improvement of MAAF runways would increase use and capabilities of MAAF	No change in existing conditions or impacts	No change in existing conditions or impacts	Same as the Proposed Action	None needed	No new residual impacts
	Railroads	Potential for increased need for rail access	No change in existing conditions or impacts	No change in existing conditions or impacts	Same as the Proposed Action	None needed	No new residual impacts
	Transportation of Materials and Wastes	♦ Changes in materials and wastes quantities may require a small increase in the number of shipments to some programs ♦ No impacts to the existing transportation route	No change in existing conditions or impacts	Fewer shipments associated with reduced mission	Same as the Proposed Action, with a larger increase in the number of shipments compared to the Proposed Action	None needed	No new residual impacts
Visual Resources	Quality of Visual Resources	♦ New activities that introduce new or changed forms, lines, colors, and textures would affect quality of existing visual resources ♦ Impacts would be limited in scope because of small numbers of viewers affected ♦ Short-term and localized impacts to visibility	No change in existing conditions or impacts	No change in existing conditions or impacts	Same as the Proposed Action, but at a larger magnitude than the Proposed Action	Use the Installation Design Guide within the SDP to consider visual resources in construction and maintenance of DPG facilities and landscaping	♦ Changes to existing visual resources would occur, but these impacts are necessary for DPG's mission. ♦ The panoramic, scenic, open and expansive nature of DPG's setting would be retained.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Noise	Changes from Noise Events	♦ Primary impact to people is from annoyance, although there is also a potential for a health hazard from very loud noise events ♦ No identifiable economic impacts with isolated location of DPG ♦ Minor localized impacts involving structural vibrations, and rattle of hanging pictures ♦ Noise is an environmental stressor to wildlife (especially the startle effect), which has highest impact during reproductive and over wintering periods	Same as the Proposed Action	Same as the Proposed Action, with fewer noise events compared to the Proposed Action	Same as the Proposed Action, with more frequent noise events compared to the Proposed Action	♦ Update the ENMP to reflect the current status of DPG missions, programs, activities, and facilities ♦ Model and monitor noise for testing and training activities that could result in major noise impacts ♦ Notify the public in advance of DPG activities that could result in major atypical noise events	Noise occurs on an irregular basis at DPG; there is no regular pattern of noise events, although noise from aircraft occurs most frequently compared to other noise sources.
Health and Safety	Occupational Health and Safety	♦ New laboratory for unidentified materials would require new health and safety requirements and additional mitigation ♦ Changes to injury/illness rate are not expected	No change in existing conditions or impacts	No change in existing conditions or impacts	Same as the Proposed Action, but higher likelihood of need for changes to health and safety procedures and additional NEPA analysis for new chemical or biological agents and hazardous materials	♦ Assess the proposed use of any new agent or hazardous material ♦ Develop an SOP to handle materials that have not been identified or characterized ♦ Follow existing controls and management plans to handle all materials currently approved for use at DPG ♦ Continue worker safety programs and procedures ♦ Continue to enforce speed limits to minimize injury as a result of vehicular accidents	Potential for accidents would always exist as long as DPG implements its mission.
	Public Health and Safety	♦ Low potential for events and/or impacts would be limited to within DPG boundaries ♦ Significant impacts if accidental release of chemical or biological agent would occur ♦ Increased firing at White Sage Impact Area would increase the probability of munitions missing their target and striking BLM land ♦ Increased training could increase the number of wildland fires associated with training	No change in existing conditions or impacts	No change in existing conditions, except probability of an accidental release of chemical or biological agent would decrease compared to the No Action Alternative	♦ Same as the Proposed Action, except probability of an accidental release of chemical or biological agent would slightly increase ♦ The potential for wildland fires would increase compared to the Proposed Action	♦ Continue periodic evacuation exercises for various potential threats ♦ Expand Memorandum of Understanding with Tooele County to include the County in evacuation exercises ♦ Explore the potential need to obtain additional land around the White Sage Impact Area from BLM to act as a buffer for existing targets ♦ Manage all fires in accordance with the DPG Fire Management Plan ♦ Obtain financial compensation from training missions for fire management according to the MTAMP and the INRMP	Potential for accidents would always exist as long as DPG implements its mission.
Materials and Wastes	Materials	♦ New laboratory for unidentified materials would require new health and safety requirements and additional mitigation ♦ Materials usage would increase; storage facilities and handling/use procedures would be adequate for projected volumes	No change in existing conditions or impacts	No change in existing conditions, except materials usage would decrease compared to the No Action Alternative	♦ Same as the Proposed Action, except materials usage would increase ♦ Potential increase for storage capacity for some materials	♦ Assess the proposed use of any new chemical or biological agent or hazardous material ♦ Develop an SOP to handle materials that have not been identified or characterized ♦ Follow existing controls and management plans to handle all materials currently approved for use at DPG	Use of materials is a necessary and unavoidable part of implementing DPG's mission.

Table ES-7. Summary of Impact Analysis Conclusions for Proposed Action and Alternatives, Mitigation, and Residual Impacts.

Environmental Resource	Resource Subtopic/Issue	Impacts from the Proposed Action (Preferred Alternative)	Impacts from the No Action Alternative	Impacts from the Decreased Mission Alternative	Impacts from the Maximum Expanded Mission Alternative	Mitigation and Monitoring Measures	Residual Impacts
Materials and Wastes (Continued)	Wastes	♦ Increased waste volumes of biological and chemical agent and simulant-related waste ♦ Management of hazardous waste streams and volumes would remain highly regulated	No change in existing conditions or impacts	Need for materials would be reduced, potentially leaving some facilities under-utilized or unnecessary	♦ Same as the Proposed Action, except wastes generated would increase ♦ Potential need to revise waste management procedures and facilities, depending on the specifics of any new materials, wastes, or programs	♦ Follow existing controls and management plans to handle all wastes currently generated at DPG ♦ Assess new waste streams to determine proper procedures	Generation of wastes is a necessary and unavoidable part of implementing DPG's mission.

Army	U.S. Army
BLM	Bureau of Land Management
CO	carbon monoxide
DPG	U.S. Army Dugway Proving Ground
DEP	Directorate of Environmental Programs
DOD	Department of Defense
EO	Executive Order
ENMP	Environmental Noise Management Plan
HWMU	Hazardous Waste Management Unit
ICRMP	Integrated Cultural Resource Management Plan
INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program
ITAM	Integrated Training Area Management
MAAF	Michael Army Airfield
MTAMP	Maneuver Training Area Management Plan
NEPA	National Environmental Policy Act
NG	National Guard
NRHP	National Register for Historic Places
PM_{10}	particulate matter less than 10 microns
SDP	Summary Development Plan
SOP	standing operating procedure
SVOC	semi-volatile organic compound
SWMU	Solid Waste Management Unit
UDAQ	Utah Division of Air Quality
UDWQ	Utah Division of Water Quality
UXO	unexploded ordnance
VOC	volatile organic compound

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ES – 4.1 Impacts to Geology and Soils

Impacts to geology and soils from the Proposed Action or alternatives were considered significant in the impact analysis if they were projected to:

- Cause substantial soil erosion or compaction such that biotic communities are seriously threatened
- Degrade soil chemical quality such that humans, plants, or animals have the potential to be substantially adversely affected through chemical uptake
- Substantially affect the future ability to use geologic resources
- Cause damage to unique geologic features

Impacts such as erosion and compaction to soil physical quality from activities under the Proposed Action would be long-term and significant. The weak structure of the soil and the arid climate make the DPG area a fragile environment requiring substantial time for restoration.

Impacts would be concentrated within the disturbed areas at DPG. Some chemical degradation of the soil quality would remain despite corrective action and clean-up measures. The level of chemical degradation, however, should not be toxic to humans, plants, or animals based on recent studies and observations of the natural environment. Soil productivity would be reduced over the long-term. Some unexploded ordnance would remain buried in the soil despite location and removal efforts. With rigorous mitigation efforts, impacts can be managed. However, the ecology of DPG's range would be impacted while restoration occurs over time.

ES – 4.2 Impacts to Water Resources

Water resources impacts resulting from the Proposed Action or alternatives were considered significant in the impact analysis if they were projected to:

- Substantially alter surface flow conditions, patterns, or rates where facilities would discharge to “waters of the State” or a scenario causing wetlands to dry up
- Cause substantial flooding or siltation
- Substantially degrade surface water quality with regard to biota either directly or indirectly as a result of bioconcentration or bioaccumulation
- Substantially decrease availability of surface water to wildlife
- Substantially increase the potential to adversely affect groundwater quality
- Cause noncompliance with applicable water quality standards

- Substantially lower an aquifer's water table or potentiometric surface such that aquifer depletion would be a concern
- Substantially alter groundwater recharge to an aquifer

Regardless of mitigation, there would be a small chemical and physical impact on surface water quality. This impact is not expected to degrade the water quality with respect to human health or wildlife or with respect to operational requirements of wastewater treatment facilities.

Impacts to water quantity would be minimal, although any water used in association with DPG's operations would not be available for other uses. It is not expected that other water users would be affected as a result of DPG water use in the short- or long-term. Thus, residual impacts would not be significant.

ES – 4.3 Impacts to Air Resources

Impacts to air resources from the Proposed Action and alternatives were considered significant in the impact analysis if:

- Materials regularly released to air were projected to exceed regulatory criteria established to protect the public or the natural environment.
- Materials such as disease-causing biological organisms or chemical agent were regularly projected to be released to air in excess of the limits prescribed by the CDC or Army surety requirements.

Continued mission activities at DPG would result in continued air emissions. These emissions would be short-term in nature and continue to be managed within regulatory limits.

No long-term impacts to air quality are anticipated as a result of DPG operations, and overall residual impacts would not be considered significant.

ES – 4.4 Impacts to Biological Resources

Impacts to biological resources resulting from the Proposed Action or alternatives were considered significant in the impact analysis if one or more of the following were projected:

- Habitat necessary for all or part of a species' life cycle (e.g., nesting areas, fawning areas, migration corridors, or watering areas) would be degraded
- Sensitive, threatened, or endangered species would be adversely affected
- Unique habitats would be lost or severely reduced

- Substantial direct or indirect mortality or displacement were to occur
- A local or regional species would be lost
- Ecological processes and functions are damaged to the extent that the ecosystem would no longer be sustainable or biodiversity would be impaired
- Increased contribution to unwanted or unnatural trends, such as fire or exotic annuals, were to occur
- Substantial loss or dramatic change in vegetation communities were to occur

Direct impacts to vegetation would be long-term and vegetation would be slow to recover even with the proposed mitigation measures. DPG operations would result in a short-term loss of wildlife habitat and cause displacement and direct mortality of wildlife.

With rigorous mitigation efforts, impacts can be managed; however, some effects, such as from wildland fires, would be long lasting. Desert environments rebound very slowly from disturbances. Areas that are revegetated would need constant attention to prevent exotics from invading and out-competing the reseeded species. Some areas could not be fully returned to their pre-disturbance condition.

If wildlife populations become extremely depressed, additional management practices beyond proposed mitigation measures would be necessary for an extended period to allow the population to fully recover. This may include restricting access to nesting or denning areas, or increasing protection of the species.

ES – 4.5 Socioeconomic Impacts

Impacts to socioeconomic resources from the Proposed Action and alternatives were considered significant in the impact analysis if one or more of the following were projected:

- Substantial gains or losses in population and/or employment were to occur
- Disequilibrium in the housing market such as severe housing shortages or surpluses were to result in substantial property value changes during the period covered by the Future Programs EIS
- Project-related demands on public infrastructure or services were to trigger the need for expanded capacity or resulted in discernible reductions in the level of service provided
- Activities or operational aspects were to substantially alter lifestyles or quality-of-life of DPG employees, their families, and civilian households near DPG

Significant socioeconomic impacts are not anticipated in connection with the Proposed Action. DPG is well established in the economic, social, and political environment of Tooele County.

DPG-related demands on public services and facilities are part of the existing environment and little change is expected in the underlying relationships between DPG and local public and private interests off the installation. Continuation of DPG operations would provide short-term benefits to local and regional economies and could potentially provide long-term benefits in the form of improved infrastructure, schools, and other public facilities through direct and indirect tax revenues.

ES – 4.6 Environmental Justice Impacts

Potential environmental justice impacts were judged as significant in the impact analysis if the Proposed Action or alternatives were projected to cause a disproportionately high and adverse impact to identified minority or low-income populations. Disproportionately high and adverse environmental or human health impacts would be considered to occur if there would be substantial impacts affecting a minority or low-income population which appreciably exceed those of the general population in and around DPG.

Environmental justice issues and impacts are projected to be nonsignificant, and the Proposed Action would be in compliance with EO 12898.

ES – 4.7 Impacts to Land Use and Access

Land use impacts resulting from the Proposed Action or alternatives were considered significant in the impact analysis if they were projected to:

- Cause substantial changes in established land uses
- Cause substantial land ownership changes
- Substantially reduce or degrade the quality of land
- Result in loss of important or unique land resources or features
- Cause substantial changes in access to DPG and its facilities
- Conflict with adopted local or regional land use plans

DPG's mission-related activities would continue to support the "dominant use" land management philosophy, which ensures that military-related land uses at DPG have ultimate priority over all other land uses.

DPG's military-related land uses meet the Army's mandated goals, but also result in long-term adverse impacts to land quality and use. Some DPG land holdings would

never be returned to pre-DPG conditions. Residual impacts after mitigation are unavoidable, but nonsignificant given mission requirements and objectives.

ES – 4.8 Impacts to Cultural Resources

Impacts to cultural resources from the Proposed Action or alternatives were considered significant in the impact analysis if they were projected to:

- Substantially disturb or adversely affect unsurveyed cultural resource sites
- Adversely affect NRHP-eligible resources
- Disturb or adversely affect sacred Native American sites
- Substantially change access to cultural resources
- Result in noncompliance with cultural resource regulations

The residual impact of DPG's future activities would be the potential physical loss of some cultural resources.

The cultural resource management program at DPG serves to protect many types of cultural resources. However, in some situations, protecting a cultural resource may not be possible. If a prehistoric or historic cultural resource site cannot be protected, data recovery should be conducted to compensate for loss of the site's integrity. While the physical loss of the site would be a residual impact of DPG's future activities, a data recovery plan would retrieve a representative sample of the information that justified the site's significance and NRHP status. Cultural resources that are determined not eligible for the NRHP and that are not Native American sacred sites or traditional cultural places are not afforded further protection within the scope of DPG's Integrated Cultural Resources Management Plan.

ES – 4.9 Impacts to Traffic and Transportation

Impacts to transportation resources resulting from the Proposed Action or alternatives were considered significant in the impact analysis if one or more of the following were projected:

- Future travel demands would require major roadway capacity enhancements or would result in substantially higher levels of highway maintenance
- Training or testing activity would require major investment in nonhighway transportation infrastructure
- Transportation requirements for DPG's mission would generate widespread and recurrent traffic congestion or result in other disruptions or inconvenience to off-installation civilian travel and shipment of goods

- Transportation of materials and wastes would require new or changed management procedures, infrastructure, equipment, or routes

The projected transportation impacts simply reflect changes in the use of existing facilities, including relatively infrequent and temporary demands on transportation networks and systems designed to be flexible and dynamic.

In many instances, the capacity to handle any anticipated future transportation demands has already been demonstrated in the past when DPG had a substantially larger work force and a larger resident population. Residual impacts to traffic and transportation are not significant.

ES – 4.10 Impacts to Visual Resources

Potential impacts to visual resources were judged as significant in the impact analysis if the Proposed Action or alternatives were projected to substantially degrade the natural or constructed physical features at DPG that provide the DPG landscape its character and value as an environmental resource.

With the Proposed Action, the panoramic, scenic, open and expansive nature of DPG's setting would be retained. Impacts to visual resources that cannot be avoided are a necessary result of carrying out DPG's mission.

DPG's continued mission would lead to a variety of impacts to visual resources in and around DPG. However, the existing environment for visual resources would not be substantially altered by DPG's continued operation under the Proposed Action. Many persons residing or working in and around DPG would support the continued presence of DPG and understand associated visual impacts. Persons who are not supportive of DPG's continued presence may be annoyed by resulting visual impacts. Residual impacts to visual resources in and around DPG would be generally short-term and intermittent, and are not projected to be significant.

ES – 4.11 Noise Impacts

Noise impacts resulting from the Proposed Action or alternatives were considered significant in the impact analysis if they were projected to cause:

- Substantial impacts to people, including health impacts and changes to the human social and cultural environment
- Substantial economic impacts
- Substantial impacts to structures

- Substantial impacts to wildlife
- Noncompliance with applicable noise regulations or guidelines

While there could be a few new noise sources and an increase in artillery firing and detonations, the primary source of noise in and around DPG would continue to be air training and testing activities. These air training and testing activities are conducted and controlled by the AF, and are therefore not a part of DPG's Proposed Action for the Future Programs EIS.

The levels of noise generated from DPG and UTTR activities would mirror the level of the activity generating the noise. For example, if noise-generating activity increases, the frequency of these noise events would also increase.

Noise impacts from AF air activities are evaluated in the cumulative impact analysis in Section ES – 5.0, Cumulative Impacts. Noise levels from DPG activities are directly related to DPG's mission, and are considered short-term and nonsignificant.

ES – 4.12 Impacts to Health and Safety

Impacts to health and safety were considered significant in the impact analysis if the Proposed Action or alternatives were projected to:

- Cause a substantial change in the existing occupational health and safety requirements and procedures as prescribed in AR 385-10
- Require substantial new occupational health and safety procedures as prescribed in AR 385-10
- Result in an increased injury/illness incident rate
- Result in public exposure to chemical or biological agents or hazardous materials
- Endanger public health or safety

While the risk of injury, illness, or catastrophic event at DPG is low, the risk cannot be totally eliminated through mitigation measures.

Residual impacts to occupational and public health and safety could occur as long as DPG continues to transport, use, store, and dispose materials and wastes on-installation. Any injury, illness, or catastrophic event associated with DPG's operations could be significant, depending upon the severity of the event.

ES – 4.13 Impacts to Materials and Wastes

Impacts to materials and wastes resulting from the Proposed Action or alternatives were considered significant in the impact analysis if one or more of the following were projected to occur:

- Existing material storage or RCRA-permitted storage space would be inadequate to accommodate any increase in material or waste volume.
- New material is introduced or a new waste stream is generated that would require substantial special storage or handling considerations above what is presently managed at DPG.
- New material or waste streams are introduced that would require substantial development of new standing operating procedures and management plans.
- Material/waste volume increase or new material/waste is introduced that would cause DPG to be out of compliance with Federal, state, or local environmental regulations.
- Material/waste volume increase or new material/waste is introduced that would require the application for new environmental permits or revisions to existing permits to comply with Federal, state, or local environmental regulations.

All impacts associated with use of materials and generation of wastes at DPG cannot be avoided, but impacts would continue to be mitigated by proper management planning, policies, and procedures, and by the existing comprehensive legal and regulatory framework.

Use of materials and generation of wastes at DPG is a necessary result of implementing DPG's mission.

ES – 5.0 Cumulative Impacts

The cumulative impact analysis within the Future Programs EIS evaluates the potential impacts associated with DPG's Proposed Action in combination with the potential impacts associated with other relevant activities which have occurred, are occurring, or may occur in the vicinity of DPG. The cumulative impact analysis is required by CEQ regulations (40 CFR 1500-1508).

ES – 5.1 Projects and Activities Included in the Cumulative Impact Analysis

The following past, current (as of 2000), or proposed projects or activities are included in the cumulative impact analysis for this DPG Future Programs EIS:

- UTTR Air Training and Testing Activities
- NASA Activities
- Tooele Army Depot
- Deseret Chemical Depot and Tooele Chemical Agent Disposal Facility
- Safety-Kleen (Aragonite) Incinerator, Transfer and Storage Facility
- Envirocare of Utah Treatment, Storage, and Disposal Facility
- Safety-Kleen (Grassy Mountain) Treatment, Storage, and Disposal Facility
- Safety-Kleen (Clive) Treatment and Storage Facility
- Magnesium Corporation of America (MagCorp) Magnesium Refining Facility
- Kennecott Bingham Canyon Copper Mine and Processing Facilities
- Intermountain Power Project (IPP)
- Proposed Skull Valley Spent Fuel Storage Facility
- Formerly Used Defense Sites (Southern Triangle and Yellow Jacket)
- Tekoi Test Range (closed)
- Public Land Management
- Tooele County Economic Development and Growth
- SR 36 Improvement
- Wildland Fires and Fire Management

The locations of projects or activities considered in the cumulative impact analysis are shown in Figure ES – 6, Projects and Activity Areas Within the Cumulative Impacts Study Area. Wildland fires and fire management are also discussed in this section as a regional activity, but fire locations are not shown in Figure ES – 6. This cumulative impact analysis considers industrial, military, land management, and economic projects and activities. Projects and/or activities described in this section are ongoing unless otherwise noted.

DPG is not the proponent of any of these projects and activities within the cumulative impact area.

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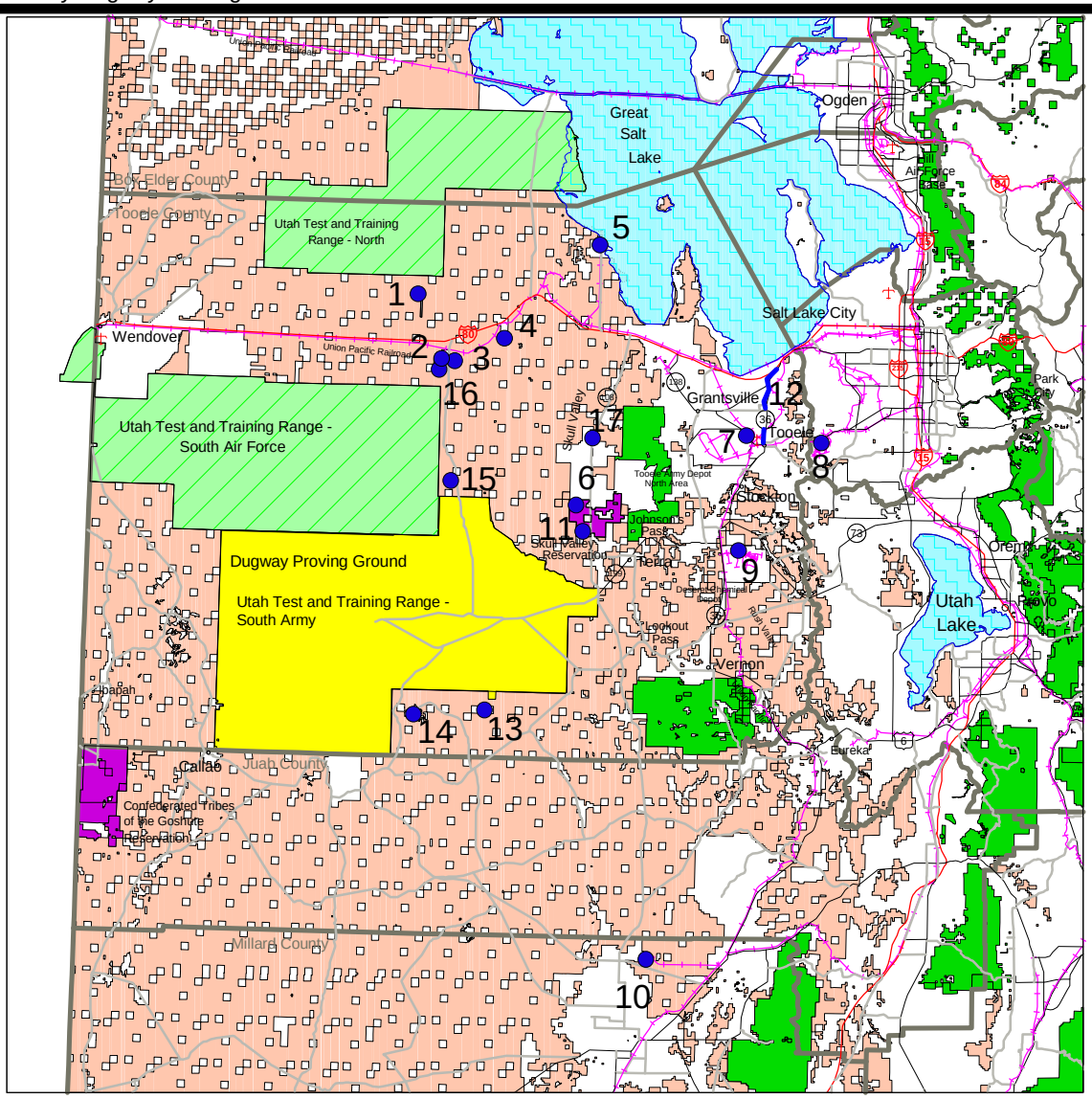

LEGEND

- Dugway Proving Ground
- Utah Test and Training Range
- American Indian Reservation
- U.S. BLM land
- U.S. Forest Service Land
- Water
- Major Road
- Minor Road
- Railroad
- County Boundary

BLM Bureau of Land Management
FUDS Formerly Used Defense Sites
SR State Road

Projects and Activity Areas Included in Cumulative Impact Analysis

1. Safety-Kleen (Grassy Mountain)
2. Safety-Kleen (Clive)
3. Envirocare of Utah
4. Safety-Kleen (Aragonite)
5. Magnesium Corporation of America (MagCorp)
6. Proposed Skull Valley Spent Fuel Storage Facility
7. Tooele Army Depot
8. Kennecott Copper Mine
9. Deseret Chemical Depot and Tooele Chemical Agent Disposal Facility
10. Intermountain Power Project
11. Tekoi Test Range (closed)
12. Highway SR36 Improvement
13. FUDS (Southern Triangle)
14. FUDS (Yellow Jacket)
15. Proposed Brown Sugar Mine
16. Clive Pit
17. Ensign Ranch

10 0 10 20
Miles

N

Figure ES-6

Projects and Activity Areas Within the Cumulative Impacts Study Area

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ES – 5.2 Cumulative Impacts of Regional Projects and Activities with the Proposed Action

The major sources of potential cumulative impacts in the region are summarized in Table ES – 8, Major Relationships of Regional Projects/Activities to Potential Cumulative Impacts.

Table ES – 8. Major Relationships of Regional Projects/Activities to Potential Cumulative Impacts.

Project/Activity	Geology and Soils	Water Resources	Air Resources	Biological Resources	Socioeconomics	Environmental Justice	Land Use and Access	Cultural Resources	Traffic and Transportation	Visual Resources	Noise	Health and Safety	Materials and Wastes
Utah Test and Training Range	•	•	•	•			•	•		•	•	•	•
National Aeronautics and Space Administration (NASA) Activities							•				•	•	
Tooele Army Depot		•	•								•	•	•
Deseret Chemical Depot and Tooele Chemical Agent Disposal			•									•	•
Safety-Kleen (Aragonite) Incinerator, Transfer and Storage Facility			•									•	•
Envirocare of Utah Treatment, Storage, and Disposal Facility												•	•
Safety-Kleen (Grassy Mountain) Treatment, Storage, and Disposal Facility												•	•
Safety-Kleen (Clive) Treatment and Storage Facility												•	•
MagCorp Magnesium Refinery			•										
Kennecott Bingham Canyon Mine/Processing	•		•										
Intermountain Power Project	•		•										
Proposed Skull Valley Spent Fuel Storage Facility		•			•	•	•		•	•	•	•	•
Formerly Used Defense Sites	•	•					•					•	
Tekoi Test Range (Closed)	•	•										•	
Public Land Management	•	•	•	•			•	•		•	•	•	
Tooele County Economic Development and Growth	•	•	•	•	•	•	•	•	•	•	•		•
State Road 36 Improvement					•		•		•	•	•		
Wildland Fires and Fire Management	•		•	•			•	•		•		•	

Major issues with potentially significant impacts from a regional perspective include:

- Physical changes to soil, including compaction and erosion
- Chemical changes to soil
- Ground disturbance
- Water availability in Tooele Valley
- Water quality
- Wildland fires
- Land quality
- Invasive growth of exotic annual vegetation such as cheatgrass
- Rapid economic development and population growth
- Aircraft-related noise
- Public health and safety
- High proportion of government-related and private sector activity involving use, storage, and/or disposal of hazardous or dangerous materials
- Transport of hazardous or dangerous materials and wastes over public roadways

Other than the activities for which it is the proponent, DPG is not responsible for impacts or for any required impact mitigation associated with the projects or activities considered in the cumulative impact analysis. To the extent required by law, the proponent of each of these actions would conduct their own NEPA evaluations to identify, disclose, and mitigate the impacts of each project or activity. These projects and activities would also be subject to the legal and regulatory framework in place to protect environmental resources.

ES – 6.0 Consultation and Coordination

A critical element in this Future Programs EIS process is an extensive consultation and coordination with internal and external sources. Internal consultation and coordination sources include individuals within DPG, higher Army command, and DPG tenant organizations. External consultation and coordination sources include the public and government agencies.

A primary goal of EIS external consultation and coordination is to implement a public involvement program to educate the public about DPG's activities and to provide opportunities for interested parties to participate in and contribute to the EIS process. Public involvement and government agency coordination are continuous parts of the EIS process, and outreach efforts to the public and governmental agencies are conducted by the Army throughout the process.

Many of the public involvement and notification activities for this EIS that have been conducted by DPG, such as publishing the NOI and conducting public scoping meetings, are mandated by NEPA and Army regulations. DPG also believes that a progressive and proactive approach to involving DPG's stakeholders would benefit the development of the Future Programs EIS and provide DPG with an opportunity to build stronger relationships with its constituents, neighbors, and environmental interest groups.

The public involvement program for the Future Programs EIS has included the following major elements:

- Informational Materials and Announcements
- Scoping Meetings
- Evaluation of Scoping Comments
- Consultation with Government Agencies
- Distribution of the Draft Environmental Impact Statement
- Public Comment Period and Public Meetings
- Response to Public Comment

Each of these elements is described in the Public Affairs Plan specifically developed to facilitate and guide such public involvement for this EIS. A description of these elements follows.

ES – 6.1 Informational Materials and Announcements

DPG developed a variety of informational materials and public announcements to notify interested parties of the Future Programs EIS. DPG advertised the Future Programs EIS scoping meetings by placing public announcements in classified advertisements in the local newspapers of towns surrounding DPG and in the major Salt Lake City newspapers. A press release was distributed by the DPG Public Affairs Office to encourage media to attend scoping meetings and request information regarding the Future Programs EIS. Additionally, DPG prepared and mailed a brochure about the Future Programs EIS to approximately 500 individuals, agencies, and groups on its mailing list.

Informational materials and announcements prepared and distributed by DPG for this EIS include:

- Notice of Intent to Prepare an EIS (as published in the Wednesday, July 29, 1998 *Federal Register*)
- Fact Sheets, Brochure, and Posters
- Reading Rooms in Dugway, Salt Lake City (Salt Lake City Main Library and University of Utah J. Willard Marriott Library), and Tooele libraries
- EIS Website (accessible from DPG's Internet Home Page at https://www.dugway.army.mil/ – this is a secure website that requires an internet browser with a specific level of security capability)
- Email Address (to request information and ask questions about the Future Programs EIS, and to request that contact information be added or deleted from the mailing list – the email address is dp-pa@dugway-emh3.army.mil).
- Newsletters (July 1999 and October 2000)

ES – 6.2 Scoping Meetings

DPG conducted two types of scoping meetings to actively involve interested parties in the EIS process. These scoping meeting formats included:

- **One-on-one meetings with key stakeholders (individuals, agencies, and groups)**
- **Formal open public meetings**

The intent of both types of meetings was to identify issues and concerns as input for the EIS process and impact analysis.

DPG identified the key stakeholders from its current mailing list and from entities who respond to and query DPG on a regular basis regarding its environmental activities. DPG met with over 35 individuals, including Federal, state, and local government officials; representatives from Federal and state environmental regulatory agencies; representatives from environmental interest groups and citizen action groups; DPG employees; DPG tenants; Native American tribes; and personnel from surrounding government facilities.

DPG documented these stakeholder meetings and entered the comments into a database. This information is part of the Administrative Record for the Future Programs EIS. The Administrative Record is the body of documents that is the basis of the decisions that will be made about DPG's Proposed Action for this EIS.

Three public meetings were held on the evenings of September 28, 29, and 30, 1998, at English Village on DPG, Tooele, and Salt Lake City, respectively. At the start of each public meeting, DPG held an Open House for 15 minutes prior to the formal meeting. This allowed participants to sign-in, gather information, view poster displays, and meet various DPG personnel. A presentation followed which provided an overview of the activities and missions at DPG, the EIS process, the Proposed Action and alternatives for the Future Programs EIS, the schedule, and public involvement opportunities. The attendees were then encouraged to comment on the Proposed Action and alternatives for the Future Programs EIS. A facilitator and recorder fielded the comments and recorded all of the information for everyone to view.

ES – 6.3 Evaluation of Scoping Comments

Most of the scoping comments were received during the one-on-one stakeholder meetings and the public meetings. Many organizations, such as the U.S. Fish and Wildlife Service, EPA Region 8, and Sierra Club, provided formal comments in writing. Several stakeholders emailed their comments or used one of the Public Comment Forms distributed at the public scoping meetings.

Public comments received at the stakeholder and public meetings, as well as written comments that were not received at these meetings, were summarized in the Scope of Statement for the Environmental Impact Statement for Activities Associated with Future Programs (DPG, 2000). DPG's responses for each summarized comment are also provided in the Scope of Statement. These scoping comments were used as a direct input into the scope and content of the EIS. The Scope of Statement is available on DPG's website (https://www.dugway.army.mil/) and in public reading rooms.

ES – 6.4 Consultation with Government Agencies

DPG is the "lead agency" for this Future Programs EIS. There are no formal cooperating agencies for this EIS, but all interested agencies were invited to actively participate in the EIS process. All comments received from these agencies were used as input into the EIS scope and content.

ES – 6.5 Distribution of the Draft Environmental Impact Statement

The Army published an NOA for the DEIS in the Federal Register on July 2, 2002. The EPA published an NOA for the DEIS in the Federal Register on July 5, 2002 and amended its notice on July 26, 2002. The DEIS was distributed to each

individual, agency, and organization on the initial distribution list published in Appendix L of the DEIS. Where appropriate the distribution was modified to account for inaccuracies in the distribution list; for example, elected officials who had taken office since the publication of the list. Recipients received either the Executive Summary or the full EIS by U.S. mail. Additional copies were mailed as requested.

ES – 6.6 Public Comment Period and Public Meetings

The Army solicited public comment on the issues and findings presented in the DEIS. The public comment period began with the publication of the NOA in the Federal Register. Comments were accepted at the public meetings described below and written comments were accepted through October 25, 2002.

Public meetings were held on the evenings of September 17, 18, and 19, 2002 at English Village on DPG, Salt Lake City, and Tooele, respectively. A printed flyer was mailed to the parties on the distribution list on August 28, 2002 to announce the public meetings. A subsequent flyer was mailed on September 9, 2002 announcing the meetings and informing the public of the locations of the public reading rooms. Advertisements for the public meetings were published three times in the Salt Lake City Tribune and the Deseret News and four times in the Tooele Transcript, first appearing on September 1, 2002. Public notices were also published in the Salt Lake City Tribune, Deseret News, and the Tooele Transcript.

United States Department of the Army

PUBLIC MEETINGS

The United States Department of the Army invites public comment on issues and findings presented in its draft Environmental Impact Statement for Activities Associated with Future Programs at U.S. Army Dugway Proving Ground (Dugway EIS). The Dugway EIS assesses the environmental impact of current and future operations at the installation.

Attend public meetings:
Meeting participants must present a valid photo ID when signing in at the public meetings.

Dugway, Utah
September 17, 2002
U.S. Army Dugway Proving Ground
Community Center
Building 5124
(435) 831-3409
6:30 p.m.

Salt Lake City, Utah
September 18, 2002
Martha Hughes Cannon Building
288 North 1460 West
Room 114
(801) 538-6109
7:00 p.m.

Tooele, Utah
September 19, 2002
Utah State Firemen's Museum
2930 West State Route (SR) 112
(435) 830-4079
7:00 p.m.

For more information regarding the Dugway EIS and public meetings, please call (435) 831-3409

Review Dugway EIS documents:

Tooele City Public Library
128 West Vine Street
Tooele, UT 84074
(435) 882-2182

Whitmore Library
2197 East Fort Union Boulevard
Salt Lake City, UT 84121
(801) 944-7533

Dugway Public Library
5124 Kister Avenue
Dugway, UT 84022
(435) 831-2178

University of Utah
J. Willard Marriott Library
Special Collections - Western Americana
295 South 1500 East
(801) 581-8863

Send written comments:
Comments presented at the public meetings or written comments **postmarked by September 19, 2002** will be given equal consideration in preparation of the Final EIS.

U.S. Army Dugway Proving Ground
EIS for Activities Associated with Future Programs
c/o AGEISS Environmental, Inc.
P.O. Box 463
Dugway, Utah 84022-5000
nicholsn@dpg.army.mil

EIS flyer provided information to the public about the public meetings for the DEIS.

At the beginning of each meeting, Mr. Rand Gibson formally welcomed the participants and introduced the technical experts present at each meeting to help participants understand DPG's Future Programs EIS. Six fact sheets and 13 posters were developed for the public meetings. The fact sheets and posters were available to provide information regarding the Future Programs EIS process and the issues and findings of the DEIS. The attendees were encouraged to comment on the DEIS. A court reporter was available at each meeting to record comments.

ES – 6.7 Response to Public Comment

The following entities provided comments on the DEIS:

- United States Environmental Protection Agency, Region 8
- United States Department of the Interior, Office of Environmental Policy and Compliance
- Utah National Guard
- Citizen's Education Project
- Environmental Health Committee, Utah Chapter of the Sierra Club

- Certified Decontamination

DPG carefully evaluated all comments in preparation of this FEIS and provided written responses to all substantive comments. Chapter ES-7.0, Public Comments and Responses, contains reproductions of the original comment letters received and DPG's written responses to the substantive comments.

ES – 7.0 Public Comments and Responses

This chapter contains the comments received on the Draft Future Programs EIS during the public comment period and responses to these comments. All comments received have been reproduced from their original form and are included in Section 7.1, Comments Received on the DEIS. The substantive comments and DPG's responses to these comments are presented in Section 7.2, Public Comments and Responses on the DEIS. Each substantive comment was given a unique number to identify it. These numbers are also shown on the reproduced comments next to the comments they identify.

ES – 7.1 Public Comments Received on the DEIS

Reproductions of the original comment letters from the entities listed in ES-6.7, Response to Public Comment, are provided below.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
99918 TH STREET - SUITE300
DENVER, CO 80202-2466
http://www.epa.gov/region08

September 9, 2002

Ref 8EPR-N

Commander
U.S. Army Dugway Proving Ground
Dugway, UT 84022-5000

Comment 1

Attn: STEDPPA

Re- Dugway Proving Ground, Future Programs
DEIS Review No. 020281

Dear Sir or Madam:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, Region 8 of the Environmental Protection Agency (EPA) has reviewed and rated the *Draft Environmental Impact Statement (DEIS) for Activities Associated with Future Programs at US. Army Dugway Proving Grounds* dated August 2001 (submitted July 2002). Our comments on the DEIS and rating of the preferred alternative follow.

Proposed Actions

I . The FEIS should describe how activities at Dugway have changed or may change as a result of the events of 9/11. In particular it appears likely that counterterrorism training may increase. Will any new facilities be built at Dugway or will there be an increase in use of existing or proposed facilities? Will Dugway obtain biological safety level 4 testing and decontamination capabilities? Are any additional impacts expected as a result of changes made due to the events of 9/11 or will any additional areas be impacted? 1-1

2. We recommend that several of Dugway's environmental activities be elevated to be proposed action. This type of planning would help integrate Dugway's mission of environmental stewardship (on page 2-5) with the Army's plans for long-term military use of Dugway. We suggest that following environmental projects be added to the proposed actions in the FEIS:

Increased rates of cleanup/closure of Solid and Hazardous Waste Management Units (SVVMU & HWMU). The DEIS identified as of 1996, 160 SWMUs and 45 HWMUs. According to the DEIS only 7 SWMU had been cleaned up as of 1996. Although we are sure that progress has been made since 1996, the number of waste management units and extent of historic activities using hazardous material illustrate the need for 1-2

ES-99

accelerating environmental cleanups as part of the facilities' core activities for the next years. ◦Closure of abandoned or inactive water wells that are not expected to have future use. ◦increased identification and cleanup of hazardous materials from previous activities such as historic testing sites and ranges. 1-2 Cont

3. Is not clear from the document if Dugway plans to use inactivated pathogens for simulation of biological agents. The FEIS should analyze the potential impacts from this activity if proposed. 1-3

Mitigation

4. The DEIS did a thorough job identifying the general mitigation needed to offset environmental impacts. It appears that much of the mitigation has been incorporated or will be incorporated into various management plans at the facility. However, the impetus for implementation and the level of mitigation are not clear such as thresholds for taking action, standards, or protective goals. For example, are there goals for maintaining or improving soil conditions? Will additional mitigation measures be taken if soil conditions continue to deteriorate? The FEIS should include a description of the events that will trigger mitigation, and the procedures that will be used to determine if additional mitigation is needed. The discussion should also address if there are any factors which will limit mitigation such as a lack of funding, institutional constraints, incomplete approvals or further environmental analysis. Will the activities that require under or unfunded mitigation be postponed until adequate funding becomes available? 1-4

5. The following management plans are important for protection of existing resources and reducing ongoing impacts from current operations. We recommend that the FEIS more fully describe these plans and their protection measures as well as the proposed mitigation. 1-5

DPG Fire Management Plan (draft in 2000) and Memorandum of Agreement between Dugway and BLM for Controlling Fires controlling fires (draft?) (page 4-55 in DEIS). Integrated Fire Management Plan (BLM, 1998)

- Integrated Cultural Resources Management Plan (2001), specifically implementation of ficultural resources inventories on unsurveyed land based on a priority ranking" as described on page 4-108.
- Natural Resource Management Plan (199 1) and Integrated Testing Area Management Program (ITAM). As described in section 3.1.4.3, the ITAM program has been in place for more than ten years to monitor and mitigate damage to natural resources. The DEIS describes ongoing significant impacts to soil and deterioration of the vegetative community in the training ground. It appears therefore, that the plan/program may need to the updated to stabilize or slow deterioration of the soil and vegetative community. It is also not clear if the proposed mitigation measures are already implementable under this plan or if revisions are needed before implementation.
- Noxious Nuisance Weed Management Plan (2000) and Integrated Pesticide Management Plan. In view of the invasive weed (cheatgrass) problem at Dugway and

the surrounding area, additional control measures need to be implemented as soon as possible and will need to be ongoing as long as ground training activities continue. 1-5 Cont

6. The new Paladin howitzers are much more destructive to the land than previous smaller units. We recommend that mitigation be developed to limit the area disturbance for these howitzers such as confining deployment to several specific areas. 1-6

7. According to a quote from a BLM report, on page 5-38 of DEIS "Great Basin (including Dugway) is changing more rapidly now than in any other time in the last 150 years. Millions of acres in the basin have changed from healthy functioning ecosystems primarily consisting of native species, to biological systems dominated by annual weeds." We recommend inclusion of additional mitigation for soil compaction and erosion, and impacts to vegetation on pages 4-20 and 4-74. The level of implementation should also be expanded above current levels to reverse the deteriorating trend from current and historic activities. The Army may also want to consider adding offsite mitigation for noxious weed control, as Dugway is unlikely to be successful in adequately controlling noxious weeds because of the ongoing nature of the disturbance from ground training activities. 1-7

8. As new facilities are built or upgraded, we recommend that Dugway adopt power line design that is protective of raptors with broad wing spans such as eagles. We understand that there has been some rapture mortality over time at Dugway. 1-8

Impact Anaslysis

9. In several areas in the DEIS, compliance with regulations was considered to be equivalent to 11no significant impacts." This is of concern, because many significant environmental impacts are not regulated, or significant impacts may be present at or below regulatory levels, In future NEPA analysis, we recommend using regulatory discussions to demonstrate control of impacts and as an indicator of the magnitude of impacts. For example, in a pristine environment, activities which lower water or air quality to the regulated levels would have significant deleterious impacts. In addition, there are many impacts which are not regulated. For one-of-a-kind facilities like Dugway, there are many activities which do not occur with sufficient frequency to be regulated specifically. 1-9

ES-100

Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the environmental analysis for the *DEIS for Activities Associated with Future Programs at US. Army Dugway Proving Grounds will* be listed in the Federal Register in the category EC-2. This means that the review has identified environmental impacts that should be avoided in order to fully protect the environment, and the DEIS does not contain sufficient information to thoroughly assess environmental impacts. Enclosed is a summary of EPA's rating definitions.

We appreciate your interest in our comments. Please contact Dana Allen at (303) 312-6870 if you have any questions about these comments.

Sincerely,

Cynthia Cody

Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosure

cc: Marguerite Duffy, EPA HQ

Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections

'ne Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - **Environmental Concerns**

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

Ile EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

~ EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clariffing language or information.

Category 2 - - Insufficient Information

'ne draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in Order to fully protect the environment, or the EPA reviewer has identified new Teasonaby available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions lmpacting the Environm. February, 1987.

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 56, Room 1003
P.O. Box 25007 (D-108)
Denver, Colorado 80225-0007

October 10, 2002

ER 02/0752

Comment 2

Colonel Edward A. Fisher
Commander
U.S. Army Dugway Proving Ground
Dugway, Utah 84022-5000

Dear Colonel Fisher:

The Department of the hiterior has reviewed the Draft Envirom-nental Impact Statement (DEIS) for Activities Associated with Future Programs at U.S. Army Dugway Proving Ground (DPG). The DEIS addresses changes proposed to mission activities over the next 7 years. The Proposed Action, the Preferred Alternative, would increase the level of activity of current mission components, diversify operations, and implement a Summary Development Plan (SDP). According to the document (p. 2-147), the Proposed Action for training at DPG consists of marked increases in both ground training and counterterrorism training. Some of the details regarding ground based activities of each follow (continued baseline events number used as current status):

ES-103

Increased level of activity of current mission components:

- Ground training activities
- Artillery - events will increase from 4 to 18, days from 14 to 114
- Special Operations - events will increase from 4 to 40, days from 45 to 120
- Acres used for bivouac activities would increase from 66,000 to 75,000
- Acres used for firing point activity would increase from 4,600 to 7,500
- Troops in off-road areas would increase from 3,300 to 6,800
- Overall ground training events would increase from 37 to 109

Diversification of operations:

- New ground-training activities (baseline of 0) Reserve component chemical units - 1,000 to 4,000 troops will be trained in three events over 21 days, using up to 600 vehicles
- Support to U.S. Army Chemical School - 800 troops will be trained in 25 events over 100 days using 18 vehiclcs
- The new Paladin artillery program would add new firing points at Camels Back Ridge and a new training area and bivouac sites at Granite Peak

General Comments:

We understand that mission changes may necessitate expansion of activities at DPG, and appreciate the ongoing efforts to implement environmentally sensitive management at the facility. However, we have concerns that the proposed expansion will result in significant impacts to fish and wildlife resources for which there is insufficient mitigation. Increases in bivouac areas in remote sites, increases in firing points, increases in troops in off-road areas, and increases in off-road vehicle use will significantly contribute to further invasion and dispersion of invasive vegetation, destruction of cryptobiotic soils, and the degradation of wildlife habitat. Of special concern are potential impacts to migratory birds and their habitat.

The Department of the Interior recommends a more extensive discussion specific to migratory birds and their habitat in the document, as well as more suitable mitigation measures. Federal agencies have a responsibility to migratory birds under authority of the Migratory Bird Treaty Act (MBTA)(16 U.S.C. §703-712), a strict. liability law which makes it unlawful to take, kill, or possess migratory birds, their parts, nests, or eggs. Executive Order 13186, issued on January 10, 2001, outlines the responsibilities of Federal agencies to comply with the MBTA. Migrant and resident species of DPG that are on the Partners in Flight Priority List for Conservation Measures include sage thrasher *(Oreoscoptes montanus)*, sage sparrow *(Amphispiza belli)*, and gray flycatcher *(Empidonax wrighth)*. We are also concerned about potential indirect effects from DPG activities on Fish Springs National Wildlife Refuge, adjacent to the southern boundary of DPG, which provides habitat vital to migrating and resident birds. 2-1

We recommend addressing migratory birds in the DEIS and programmatically as follows:

- Address the potential short-term and long-term effects of the proposal on migratory bird populations. Habitat changes can be used to measure these effects.

- Identify conservation and mitigation measures in the proposal aimed at conserving migratory bird habitats and populations. At present, the only measure proposed as mitigation for impacts to migratory birds is monitoring. Commitments to habitat protection and restoration also should be made.

- Address cumulative effects and relationships of proposed and past projects and their resulting effects on migratory birds.

We recommend you continue and expand the ongoing cooperation with the Partners in Flight Coordinator of the Utah Division of Wildlife Resources to monitor neotropical migrant birds. Implementation of the DPG Natural Resources Program's proposal to form a Cooperative Natural Resources Team will further efforts to develop monitoring, restoration, and mitigation plans with broad support and added expertise.

Land-based training is already contributing to the rapid expansion of exotic annual weeds. The current document notes (page 4-50) that 54 percent of the training areas are dominated by 2-2

cheatgrass. In addition to the increased fire frequency and loss of vegetative diversity, the resultant shift in habitat may be affecting wildlife populations and diversity. Overall trends of migratory bird populations on DPG already indicate declines in shrubsteppe-migrant species with replacement by grassland-adapted species (Martin et al., 2001). There may be similar effects to pollinator species dependent on the shrubsteppe habitat, as well as population shifts in small mammals and insects that are prey for raptors and other predators. We do not believe that the issue of invasive vegetation within the context of increased training has been adequately addressed within this document. It should describe measures to ensure that vehicles moving from "sacrifice sites" do not distribute invasive species parts or seeds. It also should note measures to remediate where invasion has inadvertently occurred. We believe that completion and implementation of the Integrated Natural Resources Management Plan and an Invasive Species Management Plan will improve the ability of DPG to mitigate for current and proposed impacts. 2-2 Cont

The presence and management of wild horses under the Wild Horse and Burro Act received little discussion in the DEIS. The Salt Lake Field Office, Bureau of Land Management (BLM), has revised the map showing the herd areas, wild horse herds found on both the Cedar Mountain and the Onaqui Mountains. Both herds are known to utilize areas on Dugway. None of the maps in the draft EIS identified the herd use areas or addressed their management under the proposed plan. BLM is willing to enter into an agreement addressing herd management. 2-3

The proposed action in section 2.2.2.2, Counterterrorism Training, identified the potential construction of a Chemical and Biological Mock City, and states that the Cedar Mountain Site is the most viable. There was no specific discussion of environmental consequences from this action, nor their potential conflicts with wild horses or nearby recreational uses. 2-4

The document does not identify which mitigating measures would be implemented, and when they would be implemented. 2-5

The subject of fire was mentioned several times in the document, but the maps in the document did not show the fires which have burned off Dugway onto adjacent public lands. BLM and Dugway have a positive history of coordination regarding wildfire suppression. However, suppression costs for human-caused fires burning onto adjacent public lands have not previously been shared. The document's projection of additional human-caused fires escaping Dugway should also include a mitigating measure which acknowledges Dugway's commensurate responsibility to share suppression expenses with BLM. This would also be a logical extension to the current working relationship between Dugway and BLM. 2-6

Our review did not find any statement about safety which clearly states Dugway's obligation to not undertake activities posing threats to the public, livestock, or wildlife that use adjacent public lands. At a minimum, it seems reasonable to acknowledge there is a responsibility to safeguard adjacent public use. 2-7

ES-104

Specific Comments:

Section 3.4.4.3, Mammals, pages 3-142, 3-143: The section on Large Mammals only discusses wild horses in their interaction with pronghorn. The document should address wild horses as their own entity, as well as interactions and conflicts with other wildlife species. Herd areas should be disclosed on a map to reduce conflicts between the wild horses and ground training exercises. 2-8

Section 3.11.3. Affected Environment, Noise, DPG Noise Sources and Characterization, page 3-237: The document states that, with the exception of aircraft noise, the amount of reliable noise data analysis generated from activities by DPG tenant units is limited because noise levels are not typically measured during testing activities. This does not mean that noise levels and frequency are not an issue for wildlife. Activities involving loud noise levels during sensitive seasons or times of day should be identified to determine if they exceed threshold levels and necessitate remediation/mitigation efforts. Remediation/mitigation plans should contain monitoring to determine effectiveness of remediation measures. 2-9

Section 4.1.6, Impacts of the Proposed Action and Alternatives, Impacts to Soil Physical Quality, Mitigation Measures, page 4-20: We are concerned by the statement, "when possible limit track vehicle use and prohibit cross country travel." We are aware that there are currently frequent examples of failure to abide by existing restrictions on cross country travel. Without adequate enforcement, the problem can only increase under the proposed expansion. The document should detail who will decide, in any individual case, when and how such activity will be limited. It also should note whether or not it involves individuals who can assess both the tactical and environmental impacts of limiting or not limiting this activity in any one case. There also should be a commitment to provide for a conservation enforcement team.

The DEIS should clarify the statement "revegetate affected areas and have training units contribute finances for this effort" by detailing revegetation plans. Reestablishment of historical native communities is preferred. Use of nonnative species would likely dilute native biotic diversity. If it is necessary to use nonnatives, they should be species that do not naturalize, spread, or impede the natural reestablishment of native species.

The document proposes rotating training areas to allow for 4 to 7 years of rest and to allow for revegetation within acceptable industry standards. Please provide additional specifics regarding the level of revegetation expected prior to continued operation of an area. 2-10

Section 4.1.6, Impacts of the Proposed Action and Alternatives, impacts to Soil Physical Quality, Mitigation Measures, page 4-2 1: The statement "restrict future development/use of mineral resources at Granite Peak" is confusing. The document should state whether this means restricting private use in the form of mineral rights. Too little information is presented to assess what this statement means and how it provides mitigation. 2-11

Section 4.4.2. 1, Impacts of the Proposed Action and Alternatives, impacts to Vegetation, page 463 and 4-64: This section only discusses wild horses in relation to their impact to pronghom. There should be more discussion on the impacts of the proposed action and alternatives directly on the wild horses. 2-12

Section 4.2.2.2, Impacts of the Proposed Action and Alternatives, Impacts to Surface Water Quality, page 4-27: The document mentions a water analysis of Fish Springs NWR surface water. Please identify the specific water source for the analyses; i.e., whether samples were collected from Fish Springs NWR or from adjacent DPG property. Additionally, there is wide variability in water chemistry throughout the Refuge, so sampling at the end of the system may give a worst case scenario. The document should clearly explain the source of these data. 2-13

Section 4.4.2.2, impacts of the Proposed Action and Alternatives, impacts to Wildlife, page 4-64:
The document states that no data are available to determine the specific impacts of noise and blast overpressure or their significance on DPG's wildlife species. As this type of noise would increase under the proposed expansion, we are concerned that failures to ascertain the impacts and provide mitigation may lead to long-term impacts to wildlife species on DPG. We recommend you work with the U. S. Fish and Wildlife Service, Utah Division of Wildlife Resources, and the wildlife experts in Program 52, Environmental Noise of the U.S. Army Center for Health Promotion and Prevention Medicine at Aberdeen Proving Ground to address this knowledge gap. 2-14

Section 4.4.2.2. impacts of the Proposed Action and Alternatives, impacts to Wildlife, page 4-65:
The document states that wildlife responses to overflights have not been documented on DPG. It further states that reaction to overflights is not believed to be a significant impact because it would not cause a decrease in the entire population. If overflights reduce reproductive success or cause stress that results in species making long distance migrations in insufficient condition to do so, the total population could, in fact, be decreased. For some of the Partners in Flight Priority Species, a small population loss could be significant. Many of the animals residing under the UTTR airspace on Dugway are likely affected by overflight. The degree to which they are affected has not been documented, and the only data referenced to support the contention of no affect is for large ungulates, a group which is, numerically speaking, a very minor portion of the DPG fauna. Response to overflights varies by species, by individual, and by season. The document should provide more information on this subject, and DPG should work with the USAF to develop cooperative studies to determine the effects of overflights on the wildlife using DPG. 2-15

Page, 4-7 1: The DEIS states that the leading cause of mortality for DPG pronghorns, is vehicular collision. The document should provide details on measures to minimize the problem. Migratory birds are frequently lost to vehicle collisions, particularly at night. We recommend you expand your discussion accordingly. 2-16

ES-105

Section 4.4.2.4, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Compliance with Regulations and Management Plans, page 4-73: The document states that it has been difficult to mitigate damage to the ranges, and that DPG may be out of compliance with the Sikes Act. We have concerns that expansion of ground disturbing activities, especially the Paladin system, may lead to further unmitigated impact to ecosystems. The document should discuss how DPG proposes to remedy past unmitigated impacts and ensure that future impacts are mitigated. We recommend that the proposed expansion not occur until DPG has completed the documents for and can implement protective and remedial measures in the following: the Integrated Natural Resource Management Plan; the Military Training Management Plan; the Invasive Species Management Plan of the ITAM Program; and the Training Environmental Assessment. 2-17

Section 4.4.6. Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Mitigatio Measures, pages 4-75 and 76: We commend DPG for proposing temporary closures to avoid training and testing in areas of high wildlife population concentrations, nesting sites, or wintering ranges. We believe DPG should commit to habitat protection and restoration activities that will maintain and enhance wildlife populations and their habitat. Severely impacted habitat may be unavailable for wildlife until restoration is completed. Even if there is alternate habitat to which the wildlife are displaced, it is unlikely that the area to which they are displaced is not inhabited by other wildlife. Depending on the season, displacement could lead to nest abandonment, inter and intra-specific competition, reproductive failure, and possible mortality.

We strongly support the proposals to implement a biomonitoring program at the landscape level and to conduct needed biological inventories and monitoring. These efforts should be fully integrated into the pending Military Training Area Management Plan with commitments to alter or mitigate actions determined to be negatively impacting wildlife resources. 2-18

Section 4.4.7, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Residual Impacts, page 4-77: The document states that if wildlife populations become extremely depressed, more management practices over an extended period of time would be necessary after the initial mitigation measures, in order to allow the population to fully recover. Wildlife populations should not be allowed to become "extremely depressed". You should determine the numbers necessary to maintain viable populations on DPG, set thresholds, and commit to change activities when they approach that threshold. 2-19

4.12.2.2, Impacts to Public Health and Safety, Artillery Mortars, and Missiles Missing Targets, page 4-131 and 4-132: The document states that "increased firing at the White Sage Impact Area would increase the probability of munitions missing their target and striking BLM land." "The increase in public safety risk would be considered significant." Exposing the public to the risk of munitions missing their target does not seem to be consistent with the responsibilities of an agency to avoid actions which may threaten the public. The total of over 1,000,000 acres of DOD land currently dedicated to military purposes seems to be an area better suited to absorb 2-20

munitions which may miss their target. Of Dugway's over 798,000 acres, there are vast acreages west and northwest which could be used as impact areas for artillery, mortars, and missiles which, if they missed their targets, would impact land presently dedicated to Dugway. Scheduled increases in use may occur on impact areas not adjacent to the Dugway boundary.

2-20 Cont

An alternative would be to not increase the use of White Sage, and relocate target locations to avoid flying over BLM land and areas close to the boundary. For example, the portion of UTTR adjacent to the north of Dugway includes about 460,000 acres which is primarily an impact area now.

Section 5.2.4.6, Cumulative impacts, Cumulative Impacts to Biological Resources, Use of Chaff, page 5-3 1: The impacts to wildlife of the continued use of chaff, or any expansion in the use of chaff on any portion of DPG, is not sufficiently documented in the science that UTTR staff has presented to date. Nearly all of the negligible impacts presented for terrestrial fauna are based on consumption of chaff by large ungulates. We disagree that these results can be extended to any other terrestrial vertebrates. In addition, the 1999 report, "Environmental Effects of RF Chaff- A Select Panel Report to the Undersecretary of Defense for Environmental Security" (Naval Research Laboratory, Washington, D.C. 20375-5320), noted there were unanswered questions regarding a review of threshold metal toxicity values in humans, animals, and fresh and marine organisms, respirability of fibrous particles in avian species, chaff accumulation on water bodies and its effect on animals, and the potential for impacts on highly sensitive aquatic habitats. Fish Springs National Wildlife Refuge is on record as being opposed to chaff use in any airspace and contends that any activity that results in chaff falling on Refuge property is prohibited under Federal law. The document should provide more information on this subject, and DPG should work with the USAF to develop cooperative studies to determine the effects of chaff on the wildlife using Fish Springs National Wildlife Refuge.

2-21

ES-106

Section 5.2.11.4, Cumulative impacts, Other Noise Sources from Federal Government Activities, Effects from Exposure to Noise, Impacts to Wildlife, page 5-52: The document discusses noise from explosives, sonic booms, and low-flying aircraft. The last sentence indicates that "noise studies elsewhere indicate that animals do adjust to noise within their habitats, and that impacts are not considered significant." Some studies on raptors have shown that certain individuals and certain species may become habituated to noise (Russell and Lewis, 1993; Andersen and Rongstad, 1989), and short-term startle responses from aircraft noise may not equate to population effects or reproductive success (Ellis, 1981: Delaney et al., 1997). Other studies indicate some species may be less likely to reoccupy nests overflown during the nesting season (Platt, 1977). However, these studies are often for single species and for resident nesting populations not experiencing the immediate stress of the migration journey. Additional questions remain regarding the effects of noise on nesting and transient migratory birds (Bartecchi, 2001). The document should provide more references for this discussion and expand it to address the points raised here.

2-22

Other specific recommendations of our letter are of both programmatic and project scales. They include:

- Postpone the proposed expansion until DPG has completed the documents for and can implement protective and remedial measures in the following: the Integrated Natural Resource Management Plan; the Military Training Management Plan; the Invasive Species Management Plan of the ITAM Program; and the Training Environmental Assessment.

- Continue and expand cooperation with the Partners in Flight Coordinator of the Utah Division of Wildlife Resources to monitor neotropical migrant birds.

- Implement the DPG Natural Resources Program's proposal to form a Cooperative Natural Resources Team as a means of furthering efforts to develop monitoring, restoration, and mitigation plans with broad support and added expertise.

- Work with the USAF to develop cooperative studies to determine the effects of overflights on wildlife using DPG and the effects of chaff on the wildlife using Fish Springs National Wildlife Refuge.

- Work with the Fish and Wildlife Service, Utah Division of Wildlife Resources, and the wildlife experts in Program 52, Environmental Noise of the U.S. Army Center for Health Promotion and Prevention Medicine at Aberdeen Proving Ground to address the knowledge gap regarding the specific impacts of noise and blast overpressure or their significance on DPG's wildlife species.

Summary Comments:

In closing, Dugway Proving Ground is rich in valuable natural resources. The potential exists for DPG to become a demonstration installation for the ability of the Department of Defense to carry out its mission while protecting the environment. However, it will take a firm commitment to that goal and effective partnering with outside agencies and between programs on DPG. We encourage DPG to explore the resources available through the Strategic Environmental Research and Development Program (SERDP) in order to devise mitigation for impacts that is sensitive to your mission needs. We recommend that your plan to implement biomonitoring at the landscape level be consistent with the SERDP Ecosystem Management Project. Four components are key to success at DPG: 1) Ecosystem health or change indicators; 2) Thresholds of disturbance; 3) Biogeochemical cycles and processes; and 4) Ecosystem processes as they relate to multiple temporal and spatial scales.

We appreciate the opportunity to provide these comments. If you need further assistance regarding wildlife resources, please contact Diana Whittington, Ecologist, at U.S. Fish and Wildlife Service, Ecological Services, 2369 Orton Circle, Suite 50, West Valley City, Utah 84119 or (801) 975-3330. For further assistance regarding wild horse management, fire

suppression, and public lands issues, contact Glenn Carpenter, BLM Salt Lake Field Office, 2370 South 2300 West, Salt Lake City, Utah 84119 or (801) 977-4300.

Sincerely,

ES-107

Literature Referenced

Andersen, D.E. and Rongstad, O.J. 1989. Response of nesting red-tailed hawks to helicopter overflights. Condor, 91: 296-299.

Bartecci, K.M. 2001. Effects of military overflights on nesting neotropical migrants. Annual Report from the Alaska Bird Observatory prepared for the US Air Force as a requirement for contract #F655010OM6913. Published on the on the internet at: hllp://www.alaskabird.orWABOResearch/ABOMOA200ORgpt.html. 21pp.

Delaney, D.K., Grubb, T.G, and Pater, L.L. 1997. Effects of helicopter noise on nesting Mexican spotted owls. Unpubl. Rep., for the U.S. Air Force 49 CES/CEV, Holloman Air Force Base, Project Order No. CE P.O. 95-4. 49pp.

Ellis, D.H. 1981. Responses of raptorial birds to low level military jets and sonic booms: Results of the 1980-1981 joint U.S. Air Force-U.S. Fish and Wildlife Service study. Institute for Raptor Studies 59pp.

Martin, J.W., Pearl, T.L., and Martin, M.C. 2001. Bird dynamics in the Bonneville Basin: Influence of military training on neotropical breeding birds in disturbed versus undisturbed habitats. Unpubl. Rep., Internal DPG document. l6pp.

Platt, J.B. 1977. The breeding behavior of wild and captive gyrfalcons in relation to their environment and human disturbance. Ph.D. Thesis. Cornell Univ., Ithaca, N.Y. 164pp.

Russell, W.A. and N.D. Lewis. 1993. Quantification of military noise in bald eagle habitat at Aberdeen Proving Ground, Maryland. Unpubl. Rep., presented at the Raptor Res. Found. Annual Meeting Special Symp. on adaptations of raptors to human-altered environments, Charlotte, North Carolina. 29pp.

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Utah!

Michael O. Leavitt, Governor

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Major General Brian L. Tarbet, The Adjutant General

September 17, 2002

Environmental Resources Management

SUBJECT: Comments re Draft Environmental Impact Statement for Activities Associated with Future Programs at U.S. Army Dugway Proving Grounds

U.S. Army Dugway Proving Ground
EIS for Activities Associated with Future Programs
c/o AGEISS Environmental, Inc.
P.O. Box 463
Dugway, UT 84022-5000

Comment 3

Dear Sir or Madam:

The UTNG appreciates the opportunity to review Dugway Proving Ground's (DPG) subject Draft Environmental Impact Statement (DEIS) and Draft Major Training Area Management Plan (DMTAMP). We offer the following comments.

The DEIS references other plans neither readily available for public, tenant or customer review (although DPG did mail digital copies of these plans when asked) nor previously validated by the National Environmental Policy Act (NEPA) process.

1. Of most concern is that the DEIS recommends following the requirements of DPG's Fire Management Plan, 2001 Integrated Natural Resource Management Plan (INRMP), and 1996 Maneuver Training Area Management Plan (MTAMP) - all plans that as far as communicated have not been vetted by the NEPA process. It is not appropriate for these plans to be incorporated by reference in the DEIS.
2. It also inappropriately recommends implementation of a Paladin Weapons System Management Plan specific to DPG that is yet to be written, and therefore not available for comment.
3. It does not reference the Paladin Programmatic Environmental Assessment for Fielding the Paladin Weapon System (EA), which addressed fielding of the Paladin to the US Army and reserves, and specifically to DPG, dated October 1997.

3-1

The DEIS recommends collecting compensation for fire control, revegetation and other environmental management activities in accordance with the MTAMP and the lNRMP. These comments may also be found in the Executive Summary in Table ES-7 as Mitigation and Monitoring Measures, specifically at ES-51 row 1, bullet 12, ES-53 row 2, bullet 5, ES-53 row 3, bullet 7, and ES-58 row 3 bullet 5.

1 . Neither collecting compensation nor any formula for doing so was found in either of these documents. The only mention found was that units training during high fire danger might have to pay for a fire department member to be onsite during training.
2. We believe it inappropriate for an EIS to assert contractual agreements, and especially so without the consent of the other party.

3-2

3. The Army National Guard is not funding for costs associated with training damages, and funds obtained for training are not sufficient to both train and pay potential bills levied by DPG. Any potential bills resulting from training activities and paid from training funds would seriously impact future training and unit readiness. Further, this indirect funding to DPG, potentially covered by other programs such as Integrated Training Area Management ([TAM), may have anti-deficiency implications.
4. Lastly, damages are a normal consequence of training and are the responsibility of the host installation permitting the training. DPG receives funds for the Army Deputy Chief of Staff for Operations and Plans (DCSOP) ITAM program to mitigate training damages at US Army installations.

3-2 Cont

Section 3.9.3 of the DEIS, Airports and Airspace, makes no mention of Salt Lake City Municipal Airport #2. General Aviation is based at the airport along with a very large Utah Army National Guard Helicopter training base. The Army Aviation Support Facility (AASF) is located at the southern most end of the property. Two Army Aviation Helicopter Units are housed there; I st Battalion, 211 th Aviation Regiment (AH-64A Apache) and D Company, I st Battalion 189th Combat Support Aviation Battalion (CSAB) (UH-60A Blackhawk). Also, Detachment 50, Headquarters, Utah State Area Command operates a C-12 Beachcraft SuperKing Air at the facility. The Utah Army National Guard currently performs over 3500 sorties per year out of Salt Lake City Municipal Airport #2.

3-3

The training activities of the UTNG Aviation units are not well described in the DEIS. They should be better described in Section 2.1.6, Baseline Training Activities, Section 2.2.2, Proposed Action Training Activities, and/or possibly Section 5.0, Cumulative Impacts. The following on-going activities may be appropriate for inclusion into the DEIS.

1. AH-64 Apache and UH-60 Blackhawk helicopters use Wig Mountain, White Sage, and Wildcat as Missile, Rocket, and Machine Gun ranges. The airspace will accommodate up to 3 battalions of helicopters safely if the need arises. Artillery, Air Force A- I O's, Air Force F- I 6's and AH-64 Apache attack helicopters use the range simultaneously for Joint Air Attack Training (JAAT). UH-60 Blackhawks use the area for Door Gunner Training. The training area is so large that Fuel is the limiting factor in Helicopter training. This area is perfect to train ground troops on Forward Area Rapid Refuel (FARP) procedures. This type of rapid refuel/rearm is important in areas not supported by hard black top roadways.
2. UTNG AH-64 Apache and LTH-60 Blackhawk helicopters use the airspace at all altitudes (Nap of the earth, Contour, Low Level) including hovering operations. This is done at all hours of day and night.
3. UTNG AH-64 Apache and UH-60 Blackhawk helicopters land on the property to practice terrain and confined area approaches and takeoffs.
4. UTNG AH-64 Apache and UH-60 Blackhawk helicopters use Michael Army Airfield (MAAF) and surrounding area for Emergency Procedures Training.
5. UTNG AH-64 Apache and UH-60 Blackhawk helicopters use areas west, south, and north of MAAF, (Wig Mtn, Wildcat Mtn, White Sage) for live gunnery training.
6. UTNG AH-64 Apache and UH-60 Blackhawk helicopters use MAAF and surrounding area for FARP Operations and Re-Arm and De-Arm Operations.
7. The UTNG uses all areas, (Boy Scout Camp, White Rocks area etc.,) to place a 400 person Battalion and Group Headquarters for Field Training Exercises, Battalion Assembly Area operations, Forward Assembly Area operations, and Holding Area Operations training. We must move off road, utilizing terrain for cover and concealment.
8. The UTNG uses the property for FARP operations off roads and in areas used for cover and concealment.
9. The UTNG uses all areas of DPG and the Utah Test and Training Range (UTTR) for UH-60 HAMOTS operations relating to maintenance of Clover Control and associated radar sites.
10. The UTNG uses all areas of DPG and UTTR for helicopter operations day and night, utilizing Night Vision Goggle and Night Vision Systems training. This training can be accomplished with just one aircraft or with multiple aircraft flying formations in blackout conditions.

3-4

Based on our review of the above referenced document, and our discussions with I Corps Artillery officers regarding the requirements of the I Corps Artillery training exercises, the following comments are of concern. The bullets were extracted from the DEIS, section 4.1.6,Mitigation Measures, however, these statements were found scattered throughout the DEIS document.

1 . Bullet #I: "When Possible, limit track vehicle use and prohibit cross-country use". We anticipate that this mitigation measure is, overall, a good measure to be implemented. However, the possibility exists for this statement to be misconstrued and thereby negatively impact the training of the I Corps Artillery to a point that unit readiness, hence national defense, would be unduly impacted.

2. Bullet #2: "Var~ intensity of training and testing seasonally to reduce the impact on vegetation and avoid high fire conditions". Once again we anticipate that this mitigation measure is, overall, a good measure to be implemented. However, based on environmental impact information gathered from training units at the battalion level, it is not typically possible to meet both of the criteria listed. Historical information suggests that during winter months tracked vehicle use greatly impacts soil and vegetation in the maneuver areas. This impact is caused by large ruts created with the repeated thawing and freezing of the ground while traversing the area with heavy vehicles. Winter is the same time when fire danger is typically low and firing into the impact areas is most acceptable. The summer months, when fire danger is high, are typically the best time to conduct maneuver training due to reduced impact in maneuver areas. However, during summer months, impact areas are typically at the highest risk from fire. Spring is the most likely time of the year to correlate a low fire danger time with moderate temperature fluctuations that do not repeatedly thaw and freeze. The following wording may eliminate any paradoxes precluding all training activities: When possible, the intensity of training and testing will be varied seasonally, based on environmental, readiness and feasibility assessments conducted at the battalion or testing facility level, to reduce the impact on vegetation and to avoid high fire conditions.

3-5

3. Bullet #'s 6 and 8: "Rotate use of training areas to allow for a 4 to 7 year rest period and to allow for revegetation within acceptable industry standards" and "Focus ground training in areas with high ground disturbance, such as White Sage Impact Area and Wig Mountain Training Area for training and testing. Other areas that are used should follow compensation guidelines established in the MTAMP and the INRMP". We are in concurrence that maneuver and artillery fire training can be conducted based on a 4 to 7 year rest or rotation period. Weekend training events should be limited to either the White Sage Impact Area or Wig Mountain Training Area, but not both. However, for current tactical training methods to be implemented under current doctrine, more than one artillery firing range is required and extremely beneficial. Therefore, a minimum of two training areas would be required for some training events. Lengthy training events, such as annual training would fall under this category and require additional training areas. To facilitate the rotation of ranges a third range such as the Causeway Impact Area would need to be available for training. Most ground training could be conducted at the White Sage or Wig Mountain areas and Causeway would be used for limited operations (maneuver and artillery firing) required of the unit.

Please address any questions regarding these comments to LTC Robert Dunton at (801) 2535657.

John L. Crane, Jr., Ph.D.
Director, Environmental Resources Management

ES-110

Comment 4

MR. ERICKSON: My name is Steve Erickson. I'm the director of the Citizen's Education Project. We're a nonprofit organization located in Salt Lake City that deals with educating Utahans and others on issues of social, economic and environmental justice.

First I would like to start by commenting on the process to date the Army has followed with this Environmental Impact Statement. I would say that the Army has performed it's duties perfunctorily, have made no significant effort to inform the public of plans with the significant environmental, social and economic impact potentially upon the public in this state, nationwide and internationally. 4-1

I do appreciate that Colonel Harder has seen fit to extend the written comment deadline in response to our request to do so. It was gracious and appropriate. However, the contractors for the Army and the Army itself have really attempted in our estimation to slip this under the radar screen with the least amount of public participation possible. And the format of this particular hearing is just yet another indicator that the Army does not want the public to participate in any meaningful fashion in this decision making required by law.

Following on that, it's my understanding that the Army has or is preparing now a Programmatic Environmental Impact Statement to deal with its proposals regarding 4-2

expanded biological, chemical and counter terrorism missions. That is not completed and if the tiering process of NEPA is what it is supposed to be then the PEIS ought to be done before the DEIS for any particular project is put forth. 4-2 Cont

So there is a question here that I would like answered by the Army at some point in the process as to whether or not this Environmental Impact Statement that we're commenting on here today is tiering off of the Programmatic Enviromental Impact Statement that is yet to be completed?

In that context there are a variety of new proposed biological safety level 3 and 4 laboratory expansions and new construction across four cabinet level compartments now under consideration. Those being the DOD, the DOE, the Department of Agriculture and the Health and Human Services Department and below them the centers for disease control and other associated HHS agencies. 4-3

The question that comes to mind knowing that we're talking about new BL 3 or 4 laboratories in places like Las Alomos, Livermore, California, Hamilton, Montana, Galveston, Texas, Lubeck, Texas, Plume Island all raise a question of, is this a duplication of effort? Is this an overreaction to the potential for a bioterrorism problem in this country? And wherein lies the oversight for these programs and how do they in the end tie together?

A question that I would like to have answered 4-4

specific to the process with the Environmental Impact Statement before us is the tiering on specific projects that are envisioned in this seven year master plan if we can call it that. And that is should Dugway pursue the preferred alternative, constructing as many as seven separate new buildings, renovating as many as four additional existing buildings for purposes of biological and chemical defense testing?

Will there be a process for under an environmental assessment that the public can be involved in each specific new development proposed? What will be the decision making? Where is the cut line on whether an EA will be required or whether it will be considered under the rubric of this master plan to have already been approved and can be done without any additional public input?

The question arises on specific tests that might take place in any one of these given facilities, new, old or currently existing, and that is whether there will be peer review, opportunities for the scientific and medical community around specific testing procedures, protocols, materials and whether there will be any oversight, not only from the state government, but the federal government? We witnessed a complete collapse in my estimation of state oversight under the Leavitt administration over the activities of the Dugway Proving Ground and how will the

4-4 Cont

4-5

Dugway Proving Ground outreach to the state in order to assure the maximum protection of the public health.

4-5 Cont

I have only had a short opportunity to review the voluminous 1,000 page full EIS. And in it I find no accumulative active impact analysis. This is typical of most environmental impact statements produced by the military. I've read many and have sued over several.

The question arises with the lack of accumulative impact analysis where does the impact come on the proposed wilderness area adjacent to the Dugway Proving Ground under the proposed amendment to Defense Appropriation Act by Congressman Hansen which would preclude presumably the construction of a rail line to the private fuel storage and nuclear waste facility. How does the PFS facility fit into the economics and sociology if nothing else, not to mention the environmental impact of the two proposals in conjunction?

4-6

The same questions could be leveled regarding the use of the Utah Test and Training Range and the Army's lease of facilities to the Air Force and in allowance of the Air Force to use the air space above its facility.

A serious question arises in my mind regarding the potential for Dugway to contract with other agencies wishing to use the Dugway Proving Ground for their purposes. This is not an unusual occurrence at Dugway. Dugway has a long history of granting use permits long term and short term

4-7

to other agencies. The Air Force being the most obvious example.

The question arises when other agencies funded by other departments in the federal government pursue the opportunity to build laboratories on the secured facilities and remote facilities of Dugway for biological level 3 or 4 laboratories. It's my understanding that there is at least one educational institution in this state that is now interested in contracting with Dugway for a biological level 4 laboratory.

4-7 Cont

Dugway states in its Environmental Impact Statement that it not intending as an Army agency to pursue a biological level 4 capability in the next seven years of its master plan. But what if other agencies wish to lease land at Dugway to do that, how does that fit into the environmental impact analysis that we have before us and what will be the policy decision surrounding that? And will there be an adequate public process to address the potential for contracting agencies escalating the mission of Dugway Proving Ground on a lease basis?

Dugway Proving Ground beginning in my memory going to the mid to late 80's consistently denied that any of its biological defense activities involved the production, development or distribution of any pathogens beyond the borders of the Dugway Proving Grounds. That its role was

4-8

simply to test agent against protective gear to perfect detection devises that might have battle field utility and to determine methods for decontaminating equipment and personnel exposed to biological agent.

However, recent admissions by the Dugway Proving Ground reported widely in the national press state that in fact Dugway has produced and developed weaponized agent since at least 1992 and that those weaponized agents, anthrax in particular, have been sent back and forth between not only Dugway and its headquarter agency USAMRIID and Fort Detrick in Maryland, but has shared weaponized anthrax contractors such as Batell Corporation in Ohio.

There are questions whether any of that anthrax has gone to additional locations such as the University of New Mexico. And that there are counting discrepancies that have been revealed between the sharing of anthrax in either liquid or dry weaponized form between Dugway and Detrick.

The extraordinary concern we have and the public ought to have the question essentially comes down to where do the anthrax of post 9/11, fall 2001, come from and where was it weaponized. Pending further investigation by the FBI and other authority agencies that still remains a question, but all current publically available information points to the United States Army, USAMRIID, Fort Detrick and Dugway.

That not only raises questions about the

4-8 Cont

oversight and transparency which are entirely needed in this situation with the proving ground and its proposed development, but raises the question about the need for Dugway to weaponize pathogens in order to test them. Is it not possible for Dugway to fulfill it's mission to protect our military personnel by using similant organisms rather than weaponized pathogens?

4-8 Cont

It leads to further questions given that Dugway has essentially mislead the public over the past 12, 13 years about weaponizing pathogens for testing purposes whether or not we can trust the Army and Dugway Proving Ground not to enter into the realm of genetically engineering micro-organisms, pathogens for additional experimentation.

Given Dugway's past track record dating to 1940's in which Dugway has released to the environment with an untold, undetermined impact upon the public health of people in the vicinity of more than 1,000 open air chemical weapon tests, many dozens of open air biological releases, radiological releases into the several dozens from tellerium to cobalt 60, whether or not we as a public can trust Dugway in light of the fact that this development follows so closely on the heals of serious questions of its participation in weaponizing anthrax that winds up in senators' offices.

How will in the end Dugway minimize the risk to the public health? It's more than simply a security concern.

4-9

And there are certainly security concerns about the operation of the proving ground over the years. Additionally the impacts of proposed doubling of biological and chemical weapons defense programs at Dugway will have an impact beyond the boundaries and beyond Utah. There are impacts not analyzed in this EIS and perhaps outside the scope of it, but must be within the scope of the public discussion around this proposal, and that is what is the impact on the biological weapons convention.

4-9 Cont

The international agreements we have upon the discussion of improving the verification protocols which the United States essentially has walked away from for the time being and what will be the international perception of not only the developments proposed under this EIS, but in the broader view the four plus agency development of BL 3 and 4 capacity around the country. The question arises whether this will be perceived as dual use technology and potential development of an offensive capability particularly in light of the proposed stockpiling of vaccines against potential biological agent use.

Lastly, I have looked at the DEIS sufficiently to determine that the counter terrorism programs proposed under this brand new mission for the proving ground which has been a minimal mission to date are too vaguely described to possibly evaluate. What is meant by this new counter

4-10

terrorism mission that Dugway proposes? Without more specific information it's almost impossible to make any intelligible comments other than to say what are you planning to do here?

We have heard discussions going back to 1997 of potential use of Dugway Proving Ground for counter terrorism training involving such things as even building a subway in which to experiment with how to protect and respond and the rest, but there is no detail in the statement that would give anyone an opportunity to have any way in on it that makes any sense. So the Army really needs to come a little bit cleaner on what they're proposing here.

I realize that this is a master plan rather than a specific zoning and permitting kind of process, but please we really need more help to understand what it is the Army is contemplating.

4-10 Cont

To conclude I would suggest that the Army consider a much higher degree of transparency in their programming than we have seen in the past. I have been informed just as of this evening that the Army is willing to release a list of all the pathogens located in Pandora's Ice Box at the Sulliman's Life Sciences Test Facility. That is something we demanded more than a decade ago and were rebuffed.

Supposedly that has all been declassified and

4-11

only five percent of the information on what pathogens get tested at Dugway are now available to the general public we have yet to see those. I remain sceptical until we do see a list. This is important to know what is in Pandora's Ice Box and what is contemplated to be stored there in the future given the doubling of mission because the public needs to be prepared to protect itself against the potential communicable diseases and/or other pathogens that could infect the population. And to date the only place in the United States where that has happened has been more than likely a direct result of problems within the USAMRIID command.

We need to be able to inform the medical community of what the potentials are for diseases they might encounter, where those might come from, what steps they must take in order to diagnosis and treat those potential diseases, whether they are a result of natural occurrences, accidents or mismanagement. The oversight then becomes much more critical and the need for Dugway to provide greater public information is essential. Transparency in this and in the international agreements that we hope will some day be approved so we can avoid the kinds of situations we're facing world wide now.

That's the goal we hope to achieve. If this EIS has any role in it then it would have been a useful exercise. That concludes my comments.

4-11 Cont

C E R T I F I C A T E

STATE OF UTAH)
:
COUNTY OF SALT LAKE)

I, Melinda J. Andersen, Certified Shorthand Reporter and Notary Public within and for the County of Salt Lake and State of Utah, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth, and were taken down by me in shorthand and thereafter transcribed into typewritten under my direction and supervision:

That the foregoing 16 pages contain a true and correct transcription of my shorthand notes so taken.

WITNESS MY HAND and official seal at Salt Lake City, Utah this 30th day of September, 2002.

My commission expires:
November 14, 2003

Melinda J. Andersen, C.S.R.

ES-117

DEPARTMENT OF ARMY

DUGWAY PROVING GROUND

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC COMMENTS

-o0o-

Date and Place: September 17, 2002
Dugway Proving Ground
Community Center
Building 5124
Dugway, Utah

September 18, 2002
Martha Hughes Cannon Building
266 North 1460 West, Room 114
Salt Lake City, Utah

September 19, 2002
Utah State Firemen's Museum
2930 West State Route 122
Tooele, Utah

-o0o-

PUBLIC COMMENT INDEX

Comment 5

P R O C E E D I N G S

September 18, 2002

MS. KING: My name is Cindy King. I am representing the Environmental Health Committee, Utah Chapter of the Sierra Club. We are requesting that the public comment period be extended to December 2, 2002. The public notice lacked the required 15 day notice and did not inform the public where the Draft Environmental Impact Statement could be obtained and/or reviewed. I have enclosed and have given a copy of the notice. The voluminous of the Draft Environmental Impact Statement, as implied in a recent article in the Tooele Transcript Bulletin, the public is not able to become educated to make necessary comments without this extension. 5-1

In 1990, the Secretary of Defense, who is now the Vice President of the United States, in a keynote addressed in Bethesda, Maryland at a conference called "Defense and the Environment" that the Department of Defense facilities will follow all federal, state and local environmental statutes and regulations (emphasis added). It should be noted that I am unable to find a reversal of this Secretary of Defense facilities to not comply with the various federal, state and local environmental statutes and regulations.

In 1998, the commanding officer of Dugway, Colonel John A. Como, along with various department heads,

personally informed me that Dugway looks forward to a better relationship in meeting the concerns, needs and values that the public might have in regards to the operations at Dugway. Are we now making a liar of this command officer's commitment to the public? I find it very disturbing that Dugway exhibits arrogance in complying with the basic environmental statutes and regulations, in regard to the requirement of public participation.

The National Environmental Policy Act (NEPA) states in Section 2, the purposes of this chapter are to declare a national policy which will encourage a productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation.

Title 42, Section 6974, Subsection b(1) states, public participation in the development, revision, implementation and enforcement of any regulations, guidelines, information or program under this chapter shall be provided for, encouraged and assisted by the administrator and the states.

Congress often speaks about public participation in broad terms, affirming the importance of public participation in the public policy decision-making process.

5-1 Cont

The information is to educate interested parties on the proposed action of the decision-maker. Public participation is two-way communication, with the overall goal of better decisions supported by the public.

I find it ironic that the public notice did not meet the 15 day required notification, nor were copies of the Draft Environmental Impact Statement where they could be obtained and/or viewed. The notice implied that public comments needed to be received on September 9, 2002, which is four days from when the public was notified. The notice does state that public comments would be received during the three public hearings, but the notice does not state if the public comments would be received after these public hearings.

This demonstrates how Dugway has ignored various studies of the National Research Council reports on the various Army's public relations, public outreach and public involvement efforts to avoid problems in public participation. The National Research Council defines public relations component consists of distributing information via mailed, brochures, libraries, radio broadcasts and other media in attempt to reach diverse stakeholders.

Public outreach, the second component, consists of opening channels of communication to the government agency so that the values, concerns and needs of various stakeholders can be heard.

5-1 Cont

Public involvement, the third and by far the most difficult component to establish, is a formal process that provides stakeholders an opportunity to influence decisions without surrounding the agency's legal mandate to make decisions.

The three components of the public affairs program must be closely coordinated. One Department of Army's public outreach and information office defined their mission as to provide a public involvement that supports meaningful public participation and dialogue. And the vision with management support and through a strategic public involvement program, the public office and information office will gain acceptance.

As mentioned earlier, the Secretary of Defense, in 1990, stated that the various Departments of Defense will comply with federal, state and local environmental statutes and regulations. It is not clear to the public how Dugway is complying with the Utah Statute Citing requirements as stated in Utah Code Annotated Title 19, Chapter 6, Section 108.

It is not clear to the public how the most recently mentioned notice of violation stated in the Division of Solid and Hazardous Waste Control Board meeting regarding the Resource Conservation Recovery Act will affect or not affect the proposed action. To name a few of the violations, denying access to state enforcement officers and not allowing

5-1 Cont

ES-119

standards operations procedures, not following standard operational procedures and cleaning up and sampling equipment.

We realize that a facility of this type will have notices of violations throughout its operational life-span, but what we are questioning is what will be the effects or non-effects to the proposed action. The National Environmental Policy Act requires cooperation between governmental agencies.

In closing, the Utah Chapter of the Sierra Club is requesting the public comment period be extended to December 2, 2002 because of the basic violation of public notification, lacking the 15 day requirement and where the Draft Environmental Impact Statement could not be obtained or reviewed. The voluminous text of the Draft Environment Impact Statement as implied in a recent Tooele Transcript Bulletin article does not allow for the public to become educated on the proposed action, to determine the effects if could have to public health, welfare and the environment. It is not clear how the state statute mentioned is being applied to the proposed action for compliance.

There is a requirement under the National Environmental Policy Act and the Secretary of Defense mandating policy to comply with all federal, state and local environmental statutes and regulations. Thank you.

5-1 Cont

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Certified Decontamination
3431 W. Fenchurch Rd. West Jordan, Utah 84084 (801) 809-6932 fax (801) 984-0058

October 4, 2002

U.S. Army Dugway Proving Ground
EIS for Activities Associated with Future Programs
CIO AGEISS Environmental, Inc.
P.O. Box 463
Dugway Proving Ground, Utah 84022-0463

Comment 6

RE: Draft Environmental Impact Statement for Activities Associated with Future Programs

The purpose of this letter is to express my comments of the above-referenced draft environmental impact statement. As a member of the public and a Utah business owner, I sincerely appreciate this opportunity to participate in the govenment's decision-making process.

Carbon Fiber

Carbon fiber is a strong, light-weight material with many military and commercial uses. Dust is created by cutting carbon fiber when fabricating equipment. Carbon fiber dust may be harmful to humans in the same way as asbestos and can damage electronic equipment due to its conductivity. I recommend carbon fiber be added to the materials list located in Section 3.13.3 and pollution control measures added in the environmental impact statement. 6-1

Pathogenic Mold

Mold is commonly found in homes, schools and office buildings after flooding. Improper building design also causes mold by not allowing the proper escape of airborne moisture. Certain strains of mold produce microtoxins which are carried in the air by spore. Health problems such as allergy symptoms, depression, pneumonia, birth defects, liver damage, heart disease and cancer are caused by over-exposure to the microtoxins of pathogenic mold. I recommend Dugway Proving Ground add pathogenic mold detection, prevention and remediation testing and training to their list of proposed activities. 6-2

ES-121

Clandestine Drug Manufacturing

Throughout the United States, tens of thousands of clandestine methamphetamine labs are discovered each year. Methamphetamine, hydriodic acid, and a host of other chemical residues are left in homes, motel rooms, vehicles and other locations used for clandestine manufacturing. Methamphetamine has been found to damage serotonin and dopamine levels in the brain, destroy nerve ending receptors, damage vital organs including the heart, and cause birth defects and Parkinson's disease. Hydriodic 6-3

acid (iodine) has been determined by the National Institute of Safety and Health (NIOSH) to cause damage to the central nervous system in concentrations of only two parts per million. 6-3

No definitive study has been completed regarding the decontamination of clandestine methamphetamine labs. If occupied dwellings are not adequately decontaminated, exposed persons may be harmed. If excessive decontamination efforts are required, property owners pay for unnecessary work and some property owners may seek measures to hide contamination rather than paying for remediation. I recommend Dugway Proving Ground add clandestine drug lab decontamination testing and training to their list of proposed activities.

Counter-terrorism and Police Tactical Training,

In the late 1970's and early 1980's, under the direction of Captain David C. Venable and Lieutenant William A. A. Gawthrup, Dugway Proving Ground conducted counter-terrorism and police tactical training for military and civilian police personnel. Military units trained by Dugway's program included the Utah National Guard, Hill Air Force Base, and installations within the Chemical Test and Evaluation Command. Dugway Proving Ground and Tooele Army Depot security personnel were the most active participants in the program.

Courses included Special Weapons and Tactics (SWAT), Hostage Negotiations, Critical Incident Management and Police Sniper/Counter-sniper. Tactical developments and training materials were shared with the Army, Military Police School and Air Force, Tactics for Emergency Service Teams school. For many Utah police departments, training received at Dugway Proving Ground was the starting point for their SWAT and hostage negotiations teams. The location and facilities at Dugway Proving Ground were found to be ideal for this type of training. 6-4

Although Dugway Proving Ground does not maintain large amounts of chemical agents, large amounts of chemical agents are stored at the Tooele Army Depot, some twenty miles away. Having specialized counter-terrorism and police tactical training at Dugway Proving Ground will greatly improve security and public protection. I strongly endorse counter-terrorism and police tactical training be continued and expanded at Dugway Proving Ground.

Security

One item not addressed in the draft environmental impact statement is Security. It is reasonable to withhold security details from the environmental impact statement. Disclosing too many details may compromise security. Dugway Proving Ground's security model of restricted areas, controlled areas, access lists and exchange badges was copied by the Utah Department of Corrections for security at the Prison during executions. The same security model was used for security at the venues and housing areas of the Salt Lake Olympics. 6-5

Dugway Proving Ground's well proven security measures are regulated in great part by the U. S. Army Chemical Surety Program. Physical security, accountability and personnel reliability is managed by the program and annual qualification inspections and tests ensure strict adherence to the program's standards.

In some instances, the Chemical Surety Program requirements are so strict, materials commonly carried by unarmed, civilian drivers on America's highways are escorted by armed security forces and hazardous material handlers when under military control. I recommend a section be added to the environmental impact statement that states Dugway Proving Ground will adhere to the requirements of the U. S. Army Chemical Surety Program and annually disclose to the public the installation's passing or failing of Chemical Surety Program inspections and tests.

6-5
Cont

Summary

I was stationed at Dugway Proving Ground over twenty years ago. I was very impressed by the operation of the installation and have remained equally impressed. In my decontamination business, I use decontamination measures developed and used at Dugway Proving Ground and have shared this information with others. The Utah community is safer because of the excellence achieved by the employees and soldiers of Dugway Proving Ground. It is my opinion expanding Dugway's mission will further improve the safety and security of Utah and of the United States.

Michael L. Rowzie

(Signature)

ES – 7.2 Public Comments and Responses on the DEIS

Comment 1 – United States Environmental Protection Agency, Region 8

Comment 1-1. The FEIS should describe how activities at Dugway have changed or may change as a result of the events of 9/11. In particular it appears likely that counterterrorism training may increase. Will any new facilities be built at Dugway or will there be an increase in use of existing or proposed facilities? Will Dugway obtain biological safety level 4 testing and decontamination capabilities? Are any additional impacts expected as a result of changes made due to the events of 9/11 or will any additional areas be impacted?

Response 1-1. Although the Draft EIS was completed before the events of September 11, 2001, the Proposed Action and alternatives still represent accurate descriptions of potential future actions at DPG. Therefore, no additional impacts are expected beyond those already identified in this EIS.

Currently there are no plans for DPG to obtain BL 4 capabilities. If this plan changes, however, the approach to address unknown future programs or activities at DPG not assessed in the EIS would be to "tier" their own NEPA documentation from this EIS.

Comment 1-2. We recommend that several of Dugway's environmental activities be elevated to be proposed action. This type of planning would help integrate Dugway's mission of environmental stewardship (on page 2-5) with the Army's plans for long-term military use of Dugway. We suggest that following environmental projects be added to the proposed actions in the FEIS:

- Increased rates of cleanup/closure of Solid and Hazardous Waste Management units (SWMU & HWMU). The DEIS identified as of 1996, 160 SWMUs and 45 HWMUs. According to the DEIS only 7 SWMU had been cleaned up as of 1996. Although we are sure that progress has been made since 1996, the number of waste management units and extent of historic activities using hazardous material illustrate the need for accelerating environmental cleanups as part of the facilities' core activities for the next years.
- Closure of abandoned or inactive water wells that are not expected to have future use.
- Increased identification and cleanup of hazardous materials from previous activities such as historic testing sites and ranges

Response 1-2. Solid and hazardous waste management units are addressed in DOD's Defense Environmental Restoration Program (DERP) and DPG's State of Utah Resource Conservation and Recovery Act (RCRA) permit. The DERP and State of Utah RCRA permit establish an Installation Restoration Program (IRP) at active sites, and the Formerly Used Defense Sites (FUDS) program at inactive sites. Since the RCRA permit process is the functional equivalent of NEPA, these DERP and RCRA programs are not open for comment under this NEPA review process.

Identified abandoned wells have been or are scheduled for closure. If inactive wells are abandoned in the future they will be closed at the time of abandonment. While the EIS discusses increased water use as a result of both the Proposed Action and the Maximum Expanded Mission Alternative, Section 3.2.3.3, states that increases in demand can be met by Federal reserved water rights that already exist in inactive water supply wells.

Comment 1-3. Is not clear from the document if Dugway plans to use inactivated pathogens for simulation of biological agents. The FEIS should analyze the potential impacts from this activity if proposed.

Response 1-3. While inactivated pathogens are not proposed for use as simulants, gamma-irradiated vaccine strains of pathogens could be used as described in Section 2.2.1.1. If inactivated pathogens are proposed for use, appropriate NEPA documentation would be required as described in Section 2.1.3.2.

Comment 1-4. The DEIS did a thorough job identifying the general mitigation needed to offset environmental impacts. It appears that much of the mitigation has been incorporated or will be incorporated into various management plans at the facility. However, the impetus for implementation and the level of mitigation are not clear such as thresholds for taking action, standards, or protective goals. For example, are there goals for maintaining or improving soil conditions? Will additional mitigation measures be taken if soil conditions continue to deteriorate? The FEIS should include a description of the events that will trigger mitigation, and the procedures that will be used to determine if additional mitigation is needed. The discussion should also address if there are any factors which will limit mitigation such as a lack of funding, institutional constraints, incomplete approvals or further environmental analysis. Will the activities that require under or unfunded mitigation be postponed until adequate funding becomes available?

Response 1-4. Because this is an installation-wide EIS relevant to many programs over a vast geographic area, program descriptions, potential impacts, and

proposed mitigation measures are identified in broad terms. It is therefore impractical to list specific thresholds, triggers, and mitigation measures for very specific areas.

The following language was added in three locations: Section ES-4.0, Impacts of the Proposed Action and Alternatives, after discussion of mitigation; Section 2.5, Comparison of Environmental Impacts and Mitigation Measures; Section 4.0, Impacts of the Proposed Action and Alternatives, after discussion of mitigation.

DPG's existing mitigation activities would continue under the No Action Alternative. This installation-wide EIS has identified a broad array of proposed mitigation measures that would supplement DPG's existing mitigation activities to avoid or lessen potential future impacts. These proposed mitigation measures are relevant to, and would be implemented for, all action alternatives (the Proposed Action, Decreased Mission Alternative, and the Maximum Expanded Mission Alternative). However, the timing and intensity of these mitigation measures would vary by alternative. For example, if the Decreased Mission Alternative was chosen as DPG's future, the proposed mitigation measures could potentially be implemented at a slower and less intensive manner than for the Proposed Action, because the magnitude, duration, and location of impacts would be different. Concomitantly, if the Maximum Expanded Mission Alternative was chosen, proposed mitigation measures would likely be implemented at a faster and more intensive manner than for the Proposed Action.

Since the EIS broadly assesses the potential environmental impacts, mitigation measures must be somewhat broad as well. These broad mitigation measures can be clarified, if necessary, within the ROD after a decision has been reached. In order for any mitigation measures to be enforceable, they must be clearly defined in the ROD even if they are discussed in the EIS text. Furthermore, any future proposed action requiring case-specific NEPA analysis would likely include more specific mitigation measures that would support the broad mitigation measures identified in this EIS

Comment 1-5. The following management plans are important for protection of existing resources and reducing ongoing impacts from current operations. We recommend that the FEIS more fully describe these plans and their protection measures as well as the proposed mitigation.

- DPG Fire Management Plan (draft in 2000) and Memorandum of Agreement between Dugway and BLM for Controlling Fires controlling fires (draft?) (page 4-55 in DEIS), Integrated Fire Management Plan (BLM, 1998)
- Integrated Cultural Resources Management plan (2001), specifically implementation of "cultural resources inventories on unsurveyed land based on a priority ranking" as described on page 4-108
- Natural Resource Management Plan (1991) and Integrated Testing Area Management Program (ITAM). As described in Section 3.1.4.3, the ITAM program has been in place for more than ten years to monitor and mitigate damage to natural resources. The DEIS describes ongoing significant impacts to soil and deterioration of the vegetative community in the training ground. It appears therefore, that the plan/program may need to be updated to stabilize or slow deterioration of the soil and vegetative community. It is also not clear if the proposed mitigation measures are already implementable under this plan or if revisions are needed before implementation.

Noxious Nuisance Weed Management plan (2000) and Integrated Pesticide Management Plan. In view of the invasive weed (cheatgrass) problem at Dugway and the surrounding area, additional control measures need to be implemented as soon as possible and will need to be ongoing as long as ground training activities continue.

Response 1-5. A variety of management plans have been developed at DPG to ensure Federal and State regulations are complied with, the installation's cultural and environmental features are preserved and managed, and adequate facilities are provided for DPG personnel and the DPG community. These management plans also enable DPG to effectively support the installation's mission and are intended to mitigate any potential environmental impacts from DPG activities. Management plans are updated as necessary. Discussions regarding appropriate management plans take place between DPG, tenants, and customers as necessary. Due to their volume, these management plans have been incorporated into the EIS by reference.

Comment 1-6. The new Paladin howitzers are much more destructive to the land than previous smaller units. We recommend that mitigation be developed to limit the area disturbance for these howitzers such as confining deployment to several specific areas.

Response 1-6. Management of Paladin is included in the Military Test and Training Area Management Plan and in the Paladin Programmatic Environmental Assessment for Fielding the Paladin Weapon System (EA), which addressed fielding

of the Paladin to the U.S. Army and reserves, prepared for the Army National Guard and dated October 1997.

Comment 1-7. According to a quote from a BLM report, on page 5-38 of DEIS "Great Basin (including Dugway) is changing more rapidly now than in any other time in the last 150 years. Millions of acres in the basin have changed from healthy functioning ecosystems primarily consisting of native species, to biological systems dominated by annual weeds." We recommend inclusion of additional mitigation for soil compaction and erosion, and impacts to vegetation on pages 4-20 and 4-74. The level of implementation should also be expanded above current levels to reverse the deteriorating trend from current and historic activities. The Army may also want to consider adding offsite mitigation for noxious weed control, as Dugway is unlikely to be successful in adequately controlling noxious weeds because of the ongoing nature of the disturbance from ground training activities.

Response 1-7. Section 4.1.7 states that impacts to soil physical quality from activities under the Proposed Action would be long-term and significant. Section 4.4.6 outlines extensive mitigation measures for impacts to vegetation. As discussed in Section 5.2.7.2, there is a Great Basin Restoration Initiative established to develop methods for restoring the Great Basin habitat.

DPG cannot require offsite mitigation but is coordinating with other relevant Federal and state agencies as necessary on noxious weed control issues. Neither the Army nor DPG may add off-site mitigation for noxious weed control. Adding off-site mitigation would violate the fiscal law of the United States unless authorized by Congress. DPG does not know of any such authorization. Agencies are not authorized to augment the funds of other agencies like the Bureau of Land Management (BLM) or the Air Force. Nor may DPG spend funds to support the communities of Terra, Tooele, or the Skull Valley Band of Goshutes, the bureau of Indian Affairs, or the Department of the Interior. Federal funds can only be spent in accordance with the purpose, time and amount of Title 31 of the U.S. Code. DPG is not aware of any statute that authorizes DPG to spend funds to mitigate noxious weed control off of Dugway land. If the Department of the Interior or the Department of the Air Force wants to spend such funds, they need to apply to Congress for such funds.

Comment 1-8. As new facilities are built or upgraded, we recommend that Dugway adopt power line design that is protective of raptors with broad wingspans such as eagles. We understand that there has been some rapture mortality over time at Dugway.

Response 1-8. Power line design that is protective of raptors with broad wingspans is being implemented at DPG and is scheduled for completion by June 2003.

Comment 1-9. In several areas in the DEIS, compliance with regulations was considered to be equivalent to "no significant impacts." This is of concern, because many significant environmental impacts are not regulated, or significant impacts may be present at or below regulatory levels. In future NEPA analysis, we recommend using regulatory discussions to demonstrate control of impacts and as an indicator of the magnitude of impacts. For example, in a pristine environment, activities which lower water or air quality to the regulated levels would have significant deleterious impacts. In addition, there are many impacts which are not regulated. For one-of-a-kind facilities like Dugway, there are many activities which do not occur with sufficient frequency to be regulated specifically.

Response 1-9. While noncompliance with regulations was identified as a specific significance criterium, other significance criteria were developed for every resource. Within the impact analysis process for this EIS, regulatory compliance was not the only criteria used to determine impact significance.

Comment 2 – United States Department of the Interior, Office of Environmental Policy and Compliance

Comment 2-1. We understand that mission changes may necessitate expansion of activities at DPG, and appreciate the ongoing efforts to implement environmentally sensitive management at the facility. However, we have concerns that the proposed expansion will result in significant impacts to fish and wildlife resources for which there is insufficient mitigation. Increases in bivouac areas in remote sites, increases in firing points, increases in troops in off-road areas, and increases in off-road vehicle use will significantly contribute to further invasion and dispersion of invasive vegetation, destruction of cryptobiotic soils, and the degradation of wildlife habitat. Of special concern are potential impacts to migratory birds and their habitat. The Department of Interior recommends a more extensive discussion specific to migratory birds and their habitat in the document, as well as more suitable mitigation measures. Federal agencies have a responsibility to migratory birds under authority of the Migratory Bird Treaty Act (MBTA)(16 U.S.C. §703_712), a strict liability law which makes it unlawful to take, kill, or possess migratory birds, their parts, nests, or eggs. Executive Order 13186, issued on January 11, 2001, re-instituted the responsibilities of Federal agencies to comply

with the MBTA. Migrant and resident species of DPG that are on the Partners in Flight Priority List for Conservation Measures include sage thrasher (Oreoscoptes montanus), sage sparrow (Amphispiza belli), and gray flycatcher (Empidonax wrightii). We are also concerned about potential indirect effects from DPG activities on Fish Springs National Wildlife Refuge, adjacent to the southern boundary of DPG, which provides habitat vital to migrating and resident birds. We recommend addressing migratory birds in the DEIS and programmatically as follows:

- Address the potential short-term and long-term effects of the proposal on migratory bird populations. Habitat changes can be used to measure these effects.
- Identify conservation and mitigation measures in the proposal aimed at conserving migratory bird habitats and populations. At present, the only measure proposed as mitigation for impacts to migratory birds is monitoring. Commitments to habitat protection and restoration should also be made.
- Address cumulative effects and relationships of proposed and past projects, and their resulting effects, on migratory birds.

We recommend you continue and expand the ongoing cooperation with the Partners in Flight Coordinator of the Utah Division of Wildlife Resources to monitor neo-tropical migrant birds. Implementation of the DPG Natural Resources Program's proposal to form a Cooperative Natural Resources Team will further efforts to develop monitoring, restoration and mitigation plans with broad support and added expertise.

Response 2-1. There are no fish present on DPG. Avian species historically and currently present at DPG and their habitats are listed in Table I-3. DPG will continue cooperation with Partners In Flight Coordinator of the Utah Division of Wildlife Resources.

As stated in Section 4.4.2.2, Impacts to Wildlife, DPG recognizes that changes in habitat will result in changes of migratory bird species. DPG will mitigate these changes to the extent possible as described in the Integrated Natural Resources Management Plan, which is incorporated by reference.

DPG's land management philosophy is that of "dominant use" which ensures that military-related land uses at DPG priority over all other potential land uses.

Cumulative impacts to biological resources, including those identifiable impacts beyond DPG boundaries, are discussed in Section 5.2.4 and include migratory birds.

DPG will continue cooperation with Partners In Flight Coordinator of the Utah Division of Wildlife Resources. A Cooperative Natural Resources Team is being developed, object to charter approval by the Installation Commander.

Comment 2-2. Land-based training is already contributing to the rapid expansion of exotic annual weeds. The current document notes (page 4-50) that 54 percent of the training areas are dominated by cheatgrass. In addition to the increased fire frequency and loss of vegetative diversity, the resultant shift in habitat may be affecting wildlife populations and diversity. Overall trends of migratory bird populations on DPG already indicate declines in shrubsteppe-migrant species with replacement by grassland-adapted species (Martin et al., 2001). There may be similar effects to pollinator species dependent on the shrubsteppe habitat, as well as population shifts in small mammals and insects that are prey for raptors and other predators. We do not believe that the issue of invasive vegetation within the context of increased training has been adequately addressed within this document. It should describe measures to ensure that vehicles moving from "sacrifice sites" do not distribute invasive species parts or seeds. It should also note measures to remediate where invasion has inadvertently occurred. We believe that completion and implementation of the Integrated Natural Resources Management Plan and an Invasive Species Management Plan will improve the ability of DPG to mitigate for current and proposed impacts.

Response 2-2. Specific mitigation measures are being developed in the Integrated Natural Resources Management Plan and the Integrated Exotic Species Management Plan. DPG is completing and implementing these plans.

Comment 2-3. The presence and management of wild horses under the Wild Horse and Burro Act received little discussion in the DEIS. The Salt Lake Field Office, Bureau of Land Management (BLM), has revised the map showing the herd areas, wild horse herds found on both the Cedar Mountain and the Onaqui Mountains. Both herds are known to utilize areas on Dugway. None of the maps in the draft EIS identified the herd use areas or addressed their management under the proposed plan. BLM is willing to enter into an agreement addressing herd management.

Response 2-3. Feral horse herds are discussed more fully in the Integrated Natural Resources Management Plan. As discussed in Section 3.4.4.3, feral horses are managed by DPG in cooperation with BLM. Nonetheless, DPG is willing to enter into and maintain agreements for herd management.

Comment 2-4. The proposed action in section 2.2.2.2, Counterterrorism Training, identified the potential construction of a Chemical and Biological Mock City, and states that the Cedar Mountain Site is the most viable. There was no specific discussion of environmental consequences from this action, nor their potential conflicts with wild horses or nearby recreational uses.

Response 2-4. As stated in Section 2.2.2.2, a suitable site has not been selected for the Chemical and Biological Mock City. The Chemical and Biological Mock City is subject to availability of funding. After a definitive decision has been made, appropriate NEPA documentation will be produced. The approach to address unknown activities not assessed in the EIS is that they will be "tiered" from this EIS to their own NEPA documentation. An accepted NEPA practice, "tiering" uses specific program documentation to build upon environmental analysis presented in this EIS, to prepare a NEPA document that provides detailed environmental analysis for programs once they are better defined.

Comment 2-5. The document does not identify which mitigating measures would be implemented, and when they would be implemented.

Response 2-5. Because this is an installation-wide EIS relevant to many programs over a vast geographic area, program descriptions, potential impacts, and proposed mitigation measures are identified in broad terms. It is therefore impractical to list specific thresholds, triggers, and mitigation measures for very specific areas. As required by law, DPG mitigation will continue on a case-by-case basis. DPG will attempt to secure funding beyond what is required by law, but there is no guarantee that such requested funding would be approved as part of the Record of Decision or any request.

The following language was added in three locations: Section ES-4.0, Impacts of the Proposed Action and Alternatives, after discussion of mitigation; Section 2.5, Comparison of Environmental Impacts and Mitigation Measures; Section 4.0, Impacts of the Proposed Action and Alternatives, after discussion of mitigation.

DPG's existing mitigation activities would continue under the No Action Alternative. This installation-wide EIS has identified a broad array of proposed mitigation measures that would supplement DPG's existing mitigation activities to avoid or lessen potential future impacts. These proposed mitigation measures are relevant to, and would be implemented for, all action alternatives (the Proposed Action, Decreased Mission Alternative, and the Maximum Expanded Mission Alternative). However, the timing and intensity of these mitigation measures would

vary by alternative. For example, if the Decreased Mission Alternative was chosen as DPG's future, the proposed mitigation measures could potentially be implemented at a slower and less intensive manner than for the Proposed Action, because the magnitude, duration, and location of impacts would be different. Concomitantly, if the Maximum Expanded Mission Alternative was chosen, proposed mitigation measures would likely be implemented at a faster and more intensive manner than for the Proposed Action.

Since the EIS broadly assesses the potential environmental impacts, mitigation measures must be somewhat broad as well. These broad mitigation measures can be clarified, if necessary, within the ROD after a decision has been reached. In order for any mitigation measures to be enforceable, they must be clearly defined in the ROD even if they are discussed in the EIS text. Furthermore, any future proposed action requiring case-specific NEPA analysis would likely include more specific mitigation measures that would support the broad mitigation measures identified in this EIS.

Comment 2-6. The subject of fire was mentioned several times in the document, but the maps in the document did not show the fires which have burned off Dugway onto adjacent public lands. BLM and Dugway have a positive history of coordination regarding wildfire suppression. However, suppression costs for human-caused fires burning onto adjacent public lands have not previously been shared. The document's projection of additional human-caused fires escaping Dugway should also include a mitigating measure which acknowledges Dugway's commensurate responsibility to share suppression expenses with BLM. This would also be a logical extension to the current working relationship between Dugway and BLM.

Response 2-6. As discussed in Section 5.2.4.2, wildland fires that begin off DPG have the potential of moving onto DPG and vice versa. A Memorandum of Agreement between BLM and DPG is being drafted to deal with multi-jurisdictional fires. Any shared suppression expenses should be described in that memorandum.

DPG cannot augment the funds of other federal agencies or state and local government without specific authorization from Congress. DPG is not aware of any such specific authorization and would welcome identification of such authorization and appropriations by Congress. The fiscal laws of the nation must be followed and the fiscal law doctrine of augmentation of funds generally prohibits DPG from spending funds for agencies – whether federal, state or local – outside the boundaries of DPG. DPG does not have the funds to pay for suppression of off-DPG fires. If

the fires occur on BLM land, there may not be a "commensurate responsibility to share suppression expenses with BLM." DPG firefighters have a primary responsibility to protect against fires that might jeopardize command property including ammunition igloos and other military property. When in the best interest of the command as decided by the Commander, DPG will suppress fires on DPG and will work to mitigate the creation of conditions that will enhance the potential for range fires. DPG follows many procedures that protect adjacent property. The lands off of DPG and surrounding DPG (BLM lands) are a monoculture of cheatgrass. This makes it difficult for DPG to reduce the spread of cheatgrass on DPG. The summer climate is arid. Dry lightening storms do occur and ignite about one-half of all fires on DPG. Dugway contains around 1200 square miles of land. So DPG will not be able to prevent fires from occurring altogether. DPG will require some measures by training units and test personnel during the fire season as a way of mitigating the risk of fire. But sometimes training units and test personnel will have to use equipment and material that may cause fires. The alternative might involve less realistic training that would reduce the combat efficiency of units and put missions and soldiers at risk of being less than fully combat ready. Such an alternative could put American lives at increased risk and is very undesirable.

Comment 2-7. Our review did not find any statement about safety which clearly states Dugway's obligation to not undertake activities posing threats to the public, livestock, or wildlife that use adjacent public lands. At a minimum, it seems reasonable to acknowledge there is a responsibility to safeguard adjacent public use.

Response 2-7. Section 4.12.2.2 demonstrates that DPG clearly recognizes the existence of potential impacts to public health and safety. Section 4.7 recognizes that much of the land around DPG is used for agriculture, ranching, farming, grazing, and recreation on public lands and discusses impacts to regional land uses and appropriate mitigation measures.

Nothing in this response to public comments should be considered to commit to obligations not expressed in law. DPG will address any claims or grievances it receives. The DPG community (including residents), the public, the state and other federal agencies must consider DPG to be at least a partial national sacrifice area when it comes to natural resources. Natural resource impacts by military training and some military testing may be unavoidable. But the public has other nearby alternatives in which to enjoy the local natural resources like the Simpson Buttes, the Wasatch National Forest in the Quirrh Mountains, The Cedar Mountains off DPG, Stansbury Island, the Deep Creek Range, and other locations. DPG land has been withdrawn from public domain and is dedicated to military use. DPG will first

endeavor to execute its assigned mission and to attract customers to fund DPG resources and maintain the defense mobilization base. The mission comes from the DoD and the Secretary of the Army. When the Congress, DoD, the Secretary of the Army, and the higher commands of DPG fund mitigation and sustainment of the natural resources of DPG, the latter will use the funds accordingly. When those funds are unavailable, there may be an adverse impact on the natural resources of DPG.

Comment 2-8. The section on Large Mammals only discusses wild horses in their interaction with pronghorn. The document should address wild horses as their own entity, as well as interactions and conflicts with other wildlife species. Herd areas should be disclosed on a map to reduce conflicts between the wild horses and ground training exercises.

Response 2-8. Feral horse herds are discussed more fully in the Integrated Natural Resources Management Plan. As discussed in Section 3.4.4.3, feral horses are managed by DPG in cooperation with BLM. DPG will not commit to mitigation in excess of available resources allocated to DPG by higher headquarters.

Comment 2-9. Section 3.11.3, Affected Environment, Noise, DPG Noise Sources and Characterization, page 3-237: The document states that, with the exception of aircraft noise, the amount of reliable noise data analysis generated from activities by DPG tenant units is limited because noise levels are not typically measured during testing activities. This does not mean that noise levels and frequency are not an issue for wildlife. Activities involving loud noise levels during sensitive seasons or times of day should be identified to determine if they exceed threshold levels and necessitate remediation/mitigation efforts. Remediation/mitigation plans should contain monitoring to determine effectiveness of remediation measures

Response 2-9. Effects of noise on wildlife are discussed in Sections 4.4.2.2 and 4.11.2.4. Mitigation measures for noise are discussed in Section 4.11.6. DPG is not aware of the threshold levels to which the commenter refers. DPG would welcome more specific information on these threshold levels. DPG does not have any evidence of impacts on animals caused by noise. If mission noise was to pose a threat to wildlife, DPG would consider the use of available resources to mitigate impacts on natural resources. The wildlife at DPG is thriving and dynamic and in better stead than the wildlife in Salt Lake City or Tooele. DPG intends to comply with all NCPA provisions applicable to DPG for which higher headquarters have provided funding. DPG will not take action on noise beyond that required by law,

unless directed by higher authority to do so. As always, any action is subject to available funding and subject to the needs of other natural resource funding priorities.

Comment 2-10. Section 4.1.6, Impacts of the Proposed Action and Alternatives, Impacts to Soil Physical Quality, Mitigation Measures, page 4-20: We are concerned by the statement "when possible limit track vehicle use and prohibit cross country travel." We are aware that there are currently frequent examples of failure to abide by existing restrictions on cross country travel. Without adequate enforcement, the problem can only increase under the proposed expansion. The document should detail who will decide, in any individual case, when and how such activity will be limited. It should also note whether or not it involves individuals who can assess both the tactical and environmental impacts of limiting or not limiting this activity in any one case. There should also be a commitment to provide for a conservation enforcement team.

The DEIS should clarify the statement "revegetate affected areas and have training units contribute finances for this effort" by detailing revegetation plans. Reestablishment of historical native communities is preferred. Use of non-native species would likely dilute native biotic diversity. If it is necessary to use non-natives, they should be species that do not naturalize, spread, or impede the natural re-establishment of native species.

The document proposes rotating training areas to allow for 4-7 years rest and to allow for revegetation within acceptable industry standards. Please provide additional specifics regarding the level of revegetation expected prior to continued operation of an area.

Response 2-10. The Military Testing and Training Area Management Plan addresses the issues described in the first paragraph of the comment. Since September 11, 2001, however, track vehicle use has been greatly reduced for security purposes.

Revegetation plans and procedures will be specifically addressed in the Integrated Exotic Species Management Plan. The Military Testing and Training Area Management Plan contains specifics regarding rotation of training areas and revegetation.

Soldiers and testers on exercises and tests are instructed to only engage in traversing approved areas. This mitigates the impact on the vegetation and soil of the ranges on

DPG. The Commander, DPG, will decide and be responsible for when and how restrictions on cross country transport will be allowed to occur. DPG has a conservation enforcement team consisting of natural resource personnel from the Directorate, Environmental Programs, DPG, and the director of that organization. Furthermore, the DPG point of contact for dealing with training units briefs those units on the way they can operate their equipment on DPG ranges. Violations of the standard operating procedures subject the soldiers and DPG employees to punitive disciplinary action and subject contractors to claims by the government to reimburse for the damage. DPG will continue to assertively seek integrated Training Area Management (ITAM) funds. DPG will continue to seek creative ways of requiring training units to mitigate the cost of natural resource impacts. National and departmental policy make it difficult to obtain funding to fully mitigate the training impacts. National and departmental policy are beyond the control of DPG. The comment makes reference to "industry standards." DPG is not in "industry," but rather national defense and security. DPG concludes that "industry" standards, which are not further explained by the commenter, do not apply to DPG. The goal of revegetation by DPG is always subject to the availability of funding, which in the broadest sense is determined by Congress, and to a lesser extent by DOD and the Army, but not DPG. By choosing the land area of DPG in 1942 for military missions, President Roosevelt committed the natural resources now part of DPG to a potentially irreversible and irretrievable impact. Now DPG seeks under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 107(f) to make an irreversible and irretrievable commitment of natural resources to national defense and national security use. DPG and the higher headquarters of DPG will continue to take action to mitigate the impact of that irreversible and irretrievable commitment of the lands of DPG to the national defense and national security needs.

Comment 2-11. Section 4.1.6, Impacts of the Proposed Action and Alternatives, Impacts to Soil Physical Quality, Mitigation Measures, page 4-21: The statement "restrict future development/use of mineral resources at Granite Peak" is confusing. The document should state whether this means restricting private use in the form of mineral rights. Too little information is presented to assess what this statement means and how it provides mitigation.

Response 2-11. Mitigation measure was changed to read: "Continue to prohibit any development and/or use of mineral resources at Granite Peak."

DPG does not have plans to allow private development of mineral resources, if any, of Granite Peak. DPG is not aware of any private entities, which have shown interest

in developing DPG mineral resources. Existing DPG gravel pits are sometimes used as a source of gravel and sand for construction on DPG. None of those gravel pits exist at Granite Peak. Development of geothermal energy resources has been considered and discussed in the past. But there is not any current action to develop geothermal resources.

Comment 2-12. This section only discusses wild horses in relation to their impact to pronghorn. There should be more discussion on the impacts of the proposed action and alternatives directly on the wild horses.

Response 2-12. Section 4.4.2.2 recognizes that feral horses could potentially be impacted by activities in the Cedar Mountains. Mitigation measures for potential impacts to wildlife are presented in Section 4.4.6.

Comment 2-13. Section 4.2.2.2, Impacts of the Proposed Action and Alternatives, Impacts to Surface Water Quality, page 4-27: The document mentions a water analysis of Fish Springs NWR surface water. Please identify the specific water source for the analyses; i.e., whether samples were collected from Fish Springs NWR or from adjacent DPG property. Additionally, there is wide variability in water chemistry throughout the Refuge, so sampling at the end of the system may give a worst case scenario. The document should more clearly explain the source of this data.

Response 2-13. The text on page 4-27 has been changed to read, "Impacts to surface water quality of Fish Springs National Wildlife Refuge, adjacent to the southern boundary of DPG, were also analyzed due to its proximity to DPG." No surface water samples were collected and chemically analyzed for this EIS.

Comment 2-14. Section 4.4.2.2, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, page 4-64: The document states that no data are available to determine the specific impacts of noise and blast overpressure or their significance on DPG's wildlife species. As this type of noise would increase under the proposed expansion, we are concerned that failures to ascertain the impacts and provide mitigation may lead to long-term impacts to wildlife species on DPG. We recommend you work with the Service, Utah Division of Wildlife Resources, and the wildlife experts in Program 52, Environmental Noise of the U.S. Army Center for Health Promotion and Prevention Medicine at Aberdeen Proving Ground to address this knowledge gap.

Response 2-14. Mitigation measures for noise are provided in Section 4.11.6. Thank you for the recommendation. DPG is not familiar with Program 52. Congress funds the Army to keep DPG open and the proving ground operating. However, the Test Center is only funded by customer funds. The Test Center must compete for projects in order to have its employees and test contractor employees on the payroll. Those funds can only be used to keep the Test Center operating. So there are legal constraints on the uses to which DPG can put customer funds.

Comment 2-15. Section 4.4.2.2, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, page 4-65:The document states that wildlife responses to overflights have not been documented on DPG. It further states that reaction to overflights is not believed to be a significant impact because it would not cause a decrease in the entire population. If overflights reduce reproductive success or cause stress that results in species making long distance migrations in insufficient condition to do so, the total population could, in fact, be decreased. For some of the Partners in Flight Priority Species, a small population loss could be significant. Many of the animals residing under the UTTR airspace on Dugway are likely affected by overflight. The degree to which they are affected has not been documented, and the only data referenced to support the contention of no affect is for large ungulates, a group which is, numerically speaking, a very minor portion of the DPG fauna. Response to overflights varies by species, by individual, and by season. The document should provide more information on this subject, and DPG should work with the USAF to develop cooperative studies to determine the effects of overflights on the wildlife using DPG.

Response 2-15. Air Force air testing and training activities at the UTTR are not part of the Proposed Action because DPG is not the proponent of these activities and has no control over the scope, timing, and frequency of air activities. Overhead motion associated with UTTR airspace is discussed with the cumulative impacts in Section 5.2.4.4. DPG is not aware of evidence supporting the stated assumption that the testing and training noise affects wildlife.

Comment 2-16. Page, 4-71: The DEIS states that the leading cause of mortality for DPG pronghorns is vehicular collision. The document should provide details on measures you are taking to minimize the problem. Migratory birds are also frequently lost to vehicle collisions, particularly at night. We recommend you expand your discussion accordingly.

Response 2-16. No specific data on migratory birds loss to vehicle collisions at DPG are available as these occur infrequently. Details of the measures to minimize

the problem are to enforce speed limits as stated in Section 4.4.6. The number of deaths of pronghorn antelope is only a few a year, for example, nine in the year 2001. To mitigate the impact on the pronghorn antelope, DPG staff regularly encourages employees, soldiers, and contractor employees to drive within the posted speed limits and to watch for and avoid wildlife. The 55 mph speed limit between English Village and Ditto Technical Area, a distance of 10 miles, remains 10 mph below the State's posted speed limit on State Highway 196 in Skull Valley. The speed limit between Ditto and the Life Sciences Test Facility, a distance of 6 miles, remains at 45 mph. These speeds are enforced strictly, unlike speed limits on state and federal highways in Utah.

Comment 2-17. Section 4.4.2.4, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Compliance with Regulations and Management Plans, page 4-73: The document states that it has been difficult to mitigate damage to the ranges, and that DPG may be out of compliance with the Sikes Act. We have concerns that expansion of ground disturbing activities, especially the Paladin system may lead to further unmitigated damage to ecosystems. The document should discuss how DPG proposes to remedy past unmitigated damages and ensure that future damages are mitigated. We recommend that the proposed expansion not occur until DPG has completed the documents for and can implement protective and remedial measures in the following: the Integrated Natural Resource Management Plan; the Military Training Management Plan; the Invasive Species Management Plan of the ITAM Program; and the Training Environmental Assessment.

Response 2-17. A delay in implementation of the Proposed Action or alternative is not necessary or appropriate. This EIS will comply with all NEPA procedural and substantive requirements. This will insure full compliance with the Sikes Act.

DPG is working to complete and implement the Integrated Natural Resources Management Plan, Military Testing and Training Area Management Plan, Integrated Exotic Species Management Plan of the Integrated Training Area Management Program and the Training Environmental Assessment.

DPG is not sure exactly how the commenter concludes that DPG is out of compliance with the Sikes Act. The commenter should feel free to provide additional specifics on this claim. Certainly, training with the Paladin artillery vehicle has been authorized by Congress, because Congress approved the funding for the Paladin. The Congress has also funded the Utah National Guard, which contains the elements of I Corps artillery, which is equipped with the Paladin. Some damage caused to the environment has gone unmitigated, but only due to a lack of funding,

not due to a lack of requests for funds by DPG. DPG will continue to attempt to implement protective and remedial measures, which will be subject to available funding. DPG will continue to support national security through test and evaluation and training and support to industry engaged in national defense and national security and to other agencies and allies and friendly countries engaged in cooperative international security.

Comment 2-18. Section 4.4.6, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Mitigation Measures, pages 4-75 and 76: We commend DPG for proposing temporary closures to avoid training and testing in areas of high wildlife population concentration, nesting sites, or wintering ranges. We believe DPG should also commit to habitat protection and restoration activities that will maintain and enhance wildlife populations and their habitat. Severely impacted habitat may be unavailable for wildlife until restoration is completed. Even if there is alternate habitat to which the wildlife are displaced, it is unlikely that the area to which they are displaced is not inhabited by other wildlife. Depending on the season, displacement could lead to nest abandonment, inter and intra-specific competition, reproductive failure, and possible mortality.

We strongly support the proposals to implement a bio-monitoring program at the landscape level, and to conduct much-needed biological inventories and monitoring. These efforts should be fully integrated into the pending Military Training Area Management Plan with commitments to alter or mitigate actions determined to be negatively impacting wildlife resources.

Response 2-18. DPG's mission-related activities are in support of its "dominant use" land management philosophy, which ensures that military-related land uses at DPG have ultimate priority over all other potential land uses. DPG's military-related land uses meet the Army's congressionally mandated goals, but also result in long-term adverse impacts to the quality of land and its use. Mitigation will continue to be applied but some residual impacts after mitigation are unavoidable given mission requirements and objectives.

Comment 2-19. Section 4.4.7, Impacts of the Proposed Action and Alternatives, Impacts to Wildlife, Residual Impacts, page 4-77: The document states that if wildlife populations become extremely depressed, more management practices over an extended period of time would be necessary after the initial mitigation measures, in order to allow the population to fully recover. Wildlife populations should not be allowed to become "extremely depressed". You should determine the numbers

necessary to maintain viable populations on DPG, set thresholds, and commit to change activities when they approach that threshold.

Response 2-19. DPG's mission-related activities are in support of its "dominant use" land management philosophy, which ensures that military-related land uses have priority over other land uses. Wildlife populations would only become extremely depressed with significant unforeseen disturbances. At that time, DPG would attempt to use adaptive management techniques to ensure recovery.

Comment 2-20. The document states that "increased firing at the White Sage Impact Area would increase the probability of munitions missing their target and striking BLM land." "The increase in public safety risk would be considered significant." Exposing the public to the risk of munitions missing their target does not seem to be consistent with the responsibilities of an agency to avoid actions which may threaten the public. The total of over 1,000,000 acres of DOD land currently dedicated to military purposes seems to be an area better suited to absorb munitions which may miss their target. Of Dugway's over 798,000 acres, there are vast acreages west and northwest which could be used as impact areas for artillery, mortars, and missiles which, if they missed their targets, would impact land presently dedicated to Dugway. Scheduled increases in use may occur on impact areas not adjacent to the Dugway boundary. An alternative would be to not increase the use of White Sage, and relocate target locations to avoid flying over BLM land and areas close to the boundary. For example, the portion of UTTR adjacent to the north of Dugway includes about 460,000 acres which is primarily an impact area now.

Response 2-20. Section 4.12.6 recommends two mitigation measures for artillery, mortar, and missiles impacting public health and safety. They are:

- Thoroughly review all target locations in the White Sage Impact Area
- Explore the potential need to obtain additional land around the White Sage Impact Area from BLM to act as a buffer for existing targets.

As of 2000, about 23% of DPG land holding are designated for training activities. Military training requires varying terrain to ensure the most realistic training experience. The portion of the Utah Test and Training Range adjacent to the north of DPG includes about 460,000 acres of Air Force land and DPG does not control it. If the use recommended by the commenter is needed by DPG, the command would consider asking the Air Force for permission to make the use.

Comment 2-21. Section 5.2.4.6, Cumulative Impacts, Cumulative Impacts to Biological Resources, Use of Chaff, page 5-31: The impacts to wildlife of the continued use of chaff, or any expansion in the use of chaff on any portion of DPG, is not sufficiently documented in the science that UTTR staff has presented to date. Nearly all of the negligible impacts presented for terrestrial fauna are based on consumption of chaff by large ungulates. We disagree that these results can be extended to any other terrestrial vertebrates. In addition, the 1999 report, "Environmental Effects of RF Chaff: A Select Panel Report to the Undersecretary of Defense for Environmental Security" (Naval Research Laboratory, Washington DC 20375-5320), noted there were unanswered questions regarding: a review of threshold metal toxicity values in humans, animals, and fresh and marine organisms: respirability of fibrous particles in avian species; chaff accumulation on water bodies and its affect on animals; and the potential for impacts on highly sensitive aquatic habitats. Fish Springs NWR is on record as being opposed to chaff use in any airspace and contends that any activity that results in chaff falling on Refuge property is prohibited under Federal law. The document should provide more information on this subject, and DPG should work with the USAF to develop cooperative studies to determine the effects of chaff on the wildlife using Fish Springs NWR.

Response 2-21. This is an Air Force activity (use of chaff) for which that agency is the proponent. DPG has no control over the scope, timing, and frequency of Air Force air activities. Cooperative studies for the effects of chaff on wildlife using Fish Springs National Wildlife Refuge should be performed by the U.S. Air Force and the U.S. Fish and Wildlife Service. Since DPG is not the proponent, DPG does not have any comment on the suggestion.

Comment 2-22. Section 5.2.11.4, Cumulative Impacts, Other Noise Sources from Federal Government Activities, Effects from Exposure to Noise, Impacts to Wildlife, page 5-52: The document discusses noises from explosives, sonic booms, and low-flying aircraft. The last sentence indicates that "noise studies elsewhere indicate that animals do adjust to noise within their habitats, and that impacts are not considered significant." Some studies on raptors have shown that: certain individuals and certain species may become habituated to noise (Russell and Lewis, 1993; Andersen and Rongstad, 1989); and short-term startle responses from aircraft noise may not equate to population effects or reproductive success (Ellis, 1981: Delaney et al., 1997). Other studies indicate some species may be less likely to reoccupy nests overflown during the nesting season (Platt, 1977). However, these studies are often for single species and for resident nesting populations not experiencing the

immediate stress of the migration journey. Additional questions remain regarding the effects of noise on nesting and transient migratory birds (Bartecchi, 2001). The document should provide more references for this discussion and expand it to address the points raised here.

Response 2-22. In Section 5.2.11.4, the EIS states that data are not available to determine impacts to wildlife populations and recognizes that the startle effect is likely for these populations. DPG is unaware of any studies that more clearly define the possible effects of cumulative noise impacts.

Comment 3 – Utah National Guard

Comment 3-1. The DEIS references other plans neither readily available for public, tenant or customer review (although DPG did mail digital copies of these plans when asked) nor previously validated by the National Environmental Policy Act (NEPA) process.

- Of most concern is that the DEIS recommends following the requirements of DPG's Fire Management Plan, 2001 Integrated Natural Resource Management Plan (INRMP), and 1996 Maneuver Training Area Management Plan (MTAMP) - all plans that as far as communicated have not been vetted by the NEPA process. It is not appropriate for these plans to be incorporated by reference in the DEIS.
- It also inappropriately recommends implementation of a Paladin Weapons System Management Plan specific to DPG that is yet to be written, and therefore not available for comment.
- It does not reference the Paladin Programmatic Environmental Assessment for Fielding the Paladin Weapon System (EA), which addressed fielding of the Paladin to the US Army and reserves, and specifically to DPG, dated October 1997.

Response 3-1. DPG has developed a variety of management plans to ensure Federal and State regulations are complied with, the installation's cultural and environmental features are preserved and managed, and adequate facilities are provided for DPG personnel and the DPG community. These management plans also enable DPG to effectively support the installation's mission and are intended to mitigate any potential environmental impacts from DPG activities. Management plans are updated as necessary. Discussions regarding appropriate management plans

take place between DPG, tenants, and customers as necessary. These plans have been incorporated by reference into the EIS.

Because these plans are intended to mitigate environmental and other impacts, further NEPA evaluation of management plans will be determined on a case-by-case basis.

A Paladin Weapons System Management Plan specific to DPG will not be written. Management of the Paladin will be addressed in DPG's Military Testing and Training Area Management Plan. Reference to the Paladin Programmatic Environmental Assessment for Fielding the Paladin Weapon System (EA), dated October 1997, has been added to the EIS. EIS text has been changed to read, "Management of the Paladin is included in DPG's MTAMP and the Programmatic Environmental Assessment for Fielding the Paladin Weapon System (U.S. Army Corps of Engineers Mobile District, 1997)."

Comment 3-2. The DEIS recommends collecting compensation for fire control, revegetation and other environmental management activities in accordance with the MTAMP and the INRMP. These comments may also be found in the Executive Summary in Table ES-7 as Mitigation and Monitoring Measures, specifically at ES-51 row 1, bullet 12, ES-53 row 2, bullet 5, ES-53 row 3, bullet 7, and ES-58 row 3 bullet 5.

- Neither collecting compensation nor any formula for doing so was found in either of these documents. The only mention found was that units training during high fire danger might have to pay for a fire department member to be onsite during training.
- We believe it inappropriate for an EIS to assert contractual agreements, and especially so without the consent of the other party.
- The Army National Guard is not funding for costs associated with training damage, and funds obtained for training are not sufficient to both train and pay potential bills levied by DPG. Any potential bills resulting from training activities and paid from training funds would seriously impact future training and unit readiness. Further, this indirect funding to DPG, potentially covered by other programs such as Integrated Training Area Management (ITAM), may have anti-deficiency implications.
- Lastly, damages are a normal consequence of training and are the responsibility of the host installation permitting the training. DPG receives funds for the Army

Deputy Chief of Staff for Operations and Plans (DCSOP) ITAM program to mitigate training damages at US Army installations.

Response 3-2. Damages are a normal consequence of training and are the responsibility of the training unit to mitigate at U.S. Army installations. Therefore, the Army National Guard should fund for costs associated with training damage.

Comment 3-3. Section 3.9.3 of the DEIS, Airports and Airspace, makes no mention of Salt Lake City Municipal Airport #2. General Aviation is based at the airport along with a very large Utah Army National Guard Helicopter training base. The Army Aviation Support Facility (AASF) is located at the southern most end of the property, Two Army Aviation Helicopter Units are housed there, 1st Battalion, 211th Aviation Regiment (AH-64A Apache) and D Company, 1st Battalion 189th Combat Support Aviation Battalion (CSAB) (UH-60A Blackhawk). Also, Detachment 50, Headquarters, Utah State Area Command operates a C-12 Beachcraft SuperKing Air at the facility. The Utah Army National Guard currently performs over 3500 sorties per year out of Salt Lake City Municipal Airport #2.

Response 3-3. Text regarding the SLC Municipal Airport #2 has been included in the EIS in Section 3.9.3.

Comment 3-4. The training activities of the UTNG Aviation units are not well described in the DEIS. They should be better described in Section 2.1.6, Baseline Training Activities, Section 2.2.2, Proposed Action Training Activities, and/or possibly Section 5.0, Cumulative Impacts. The following on-going activities may be appropriate for inclusion into the DEIS.

- AH-64 Apache and UH-60 Blackhawk helicopters use Wig Mountain, White Sage, and Wildcat as Missile, Rocket, and Machine Gun ranges. The airspace will accommodate up to 3 battalions of helicopters safely if the need arises. Artillery, Air Force A-10's, Air Force F-16's and AH-64 Apache attack helicopters use the range simultaneously for Joint Air Attack Training (JAAT). UH-60 Blackhawks use the area for Door Gunner Training. The training area is so large that Fuel is the limiting factor in Helicopter training. This area is perfect to train ground troops on Forward Area Rapid Refuel (FARP) procedures. This type of rapid refuel/rearm is important in areas not supported by hard black top roadways.
- UTNG AG-64 Apache and UH-60 Blackhawk helicopters use the airspace at all altitudes (Nap of the earth, Contour, Low Level) including hovering operations. This is done at all hours of day and night.

- UTNG AH-64 Apache and UH-60 Blackhawk helicopters land on the property to practice terrain and confined area approaches and takeoffs.
- UTNG AH-64 Apache and UH-60 Blackhawk helicopters use Michael Army Airfield (MAAF) and surrounding area for Emergency Procedures Training.
- UTNG AH-64 Apache and UH-60 Blackhawk helicopters use areas west, south, and north of MAAF, (Wig Mtn, Wildcat Mtn, White Sage) for live gunnery training.
- UTNG AH-64 Apache and UH-60 Blackhawk helicopters use MAAF and surrounding area for FARP Operations and Re-Arm and De-Arm Operations.
- The UTNG uses all areas, (Boy Scout Camp, White Rocks area etc.,) to place a 400 person Battalion and Group Headquarters for Field Training Exercises, Battalion Assembly Area operations, Forward assembly Area operations, and Holding Area Operations training. We must move off road, utilizing terrain for cover and concealment.
- The UTNG uses the property for FARP operations off roads and in areas used for cover and concealment.
- The UTNG uses all areas of DPG and the Utah Test and training Range (UTTR) for UH-60 HAMOTS operations relating to maintenance of Clover Control and associated radar sites.
- The UTNG uses all areas of DPG and UTTR for helicopter operations day and night, utilizing Night Vision Goggle and Night Vision Systems training. This training can be accomplished with just one aircraft or with multiple aircraft flying formations in blackout conditions.

Response 3-4. Text regarding these activities was added to the EIS in Section 2.1.6.

Comment 3-5. Based on our review of the above referenced document, and our discussion with I Corps Artillery officers regarding the requirements of the I Corps Artillery training exercises, the following comments are of concern. The bullets were extracted from the DEIS, Section 4.1.6, Mitigation Measures, however, these statements were found scattered throughout the DEIS document.

- Bullet #1: “When possible, limit track vehicle use and prohibit cross-country use”. We anticipate that this mitigation measure is, overall, a good measure to be implemented. However, the possibility exists for this statement to be

misconstrued and thereby negatively impact the training of the I Corps Artillery to a point that unit readiness, hence national defense, would be unduly impacted.

- Bullet #2: "Vary intensity of training and testing seasonally to reduce the impact on vegetation and avoid high fire conditions". Once again we anticipate that this mitigation measure is, overall, a good measure to be implemented. However, based on environmental impact information gathered from training units at the battalion level, it is not typically possible to meet both of the criteria listed. Historical information suggest that during winter months tracked vehicle use greatly impacts soil and vegetation in the maneuver areas. This impact is cause by large ruts created with the repeated thawing and freezing of the ground while traversing the area with heavy vehicles. Winter is the same time when fire danger is typically low and firing into the impact areas is most acceptable. The summer months, when fire danger is high, are typically the best time to conduct maneuver training due to reduced impact in maneuver areas. However, during summer months, impact areas are typically at the highest risk from fire. Spring is the most likely time of the year to correlate a low fire danger time with moderate temperature fluctuations that do not repeatedly thaw and freeze. The following wording may eliminate any paradoxes precluding all training activities: When possible, the intensity of training and testing will be varied seasonally, based on environmental, readiness and feasibility assessments conducted at the battalion or testing facility level, to reduce the impact on vegetation and to avoid high fire conditions.

- Bullet #'s 6 and 8: "Rotate use of training areas to allow for a 4 to 7 year rest periods and to allow for revegetation within acceptable industry standards" and "Focus ground training in areas with high ground disturbance, such as White Sage Impact Area and Wig Mountain training Area for training and testing. Other areas that are used should follow compensation guidelines established in the MTAMP and the INRMP". We are in concurrence that maneuver and artillery fire training can be conducted based on a 4 to 7 year rest or rotation period. Weekend training evens should be limited to either the White Sage Impact Area or Wig Mountain Training Area, but no both. However, for current tactical training methods to be implemented under current doctrine, more than one artillery firing range is required and extremely beneficial. Therefore, a minimum of two training areas would be required for some training events. Lengthy training events, such as annual training would fall under this category and require additional training areas. To facilitate the rotation of ranges a third range such as the Causeway Impact Area would need to be available for training. Most ground training could be conducted at the White Sage or Wig Mountain

areas and Causeway would be used for limited operations (maneuver and artillery firing) required of the unit.

Response 3-5. Unit readiness and national defense would not be unduly impacted by this mitigation statement due to DPG's land management philosophy of "dominant use" which ensures that military-related land uses at DPG have ultimate priority over all other potential land uses.

Change to "When possible, without jeopardizing realistic training, vary the intensity of training and testing seasonally to reduce impact on vegetation and to avoid high fire conditions."

Comment 4 Citizen's Education Project

Comment 4-1. My name is Steve Erickson. I'm the director of the Citizen's Education Project. We're a nonprofit organization located in Salt Lake City that deals with educating Utahans and others on issues of social, economic and environmental justice. First I would like to start by commenting on the process to date the Army has followed with this Environmental Impact Statement. I would say that the Army has performed it's duties perfunctorily, have made no significant effort to inform the public of plans with the significant environmental, social and economic impact potentially upon the public in this state, nationwide and internationally. I do appreciate that Colonel Harder has seen fit to extend the written comment deadline in response to our request to do so. It was gracious and appropriate. However, the contractors for the Army and the Army itself have really attempted in our estimation to slip this under the radar screen with the least amount of public participation possible. And the format of this particular hearing is just yet another indicator that the Army does not want the public to participate in any meaningful fashion in this decision making required by law.

Response 4-1. Chapter 6 of the Draft EIS describes DPG's consultation and coordination with stakeholders and the public through release of the EIS. Appendix L presents the initial Distribution List of the Executive Summary and the full EIS. In addition, DPG responded in a timely manner to all additional requests for the EIS.

Public meetings were scheduled more than two months after the publication of the Notice of Availability to support public participation in the NEPA process. As a result, DPG did not "slip this EIS under the radar screen." Public involvement has been and will continue to be a major goal of this EIS process.

Comment 4-2. Following on that, it's my understanding that the Army has or is preparing now a Programmatic Environmental Impact Statement to deal with its proposals regarding expanded biological, chemical and counter terrorism missions. That is not completed and if the tiering process of NEPA is what it is supposed to be then the PEIS ought to be done before the DEIS for any particular project is put forth. So there is a question here that I would like answered by the Army at some point in the process as to whether or not this Environmental Impact Statement that we're commenting on here today is tiering off of the Programmatic Environmental Impact Statement that is yet to be completed?

Response 4-2. This EIS only addresses DPG's future mission through descriptions of the Proposed Action and alternatives. Any tiering relationships of other NEPA documents to this EIS will be identified in these other NEPA documents. Tiering relationships of this EIS to other NEPA documents is identified in Section 1.5.3.

Comment 4-3. In that context there are a variety of new proposed biological safety level 3 and 4 laboratory expansions and new construction across four cabinet level compartments now under consideration. Those being the DOD, the DOE, the Department of Agriculture and the Health and Human Services Department and below them the centers for disease control and other associated HHS agencies. The question that comes to mind knowing that we're talking about new BL 3 or 4 laboratories in places like Las Alamos, Livermore, California, Hamilton, Montana, Galveston, Texas, Lubeck, Texas, Plume Island all raise a question of, is this a duplication of effort? Is this an overreaction to the potential for a bioterrorism problem in this country? And wherein lies the oversight for these programs and how do they in the end tie together?

Response 4-3. DPG's mission is established by Congress, DOD, and national security requirements. The purpose of this EIS is not to examine or question these requirements. Rather, the purpose is to identify future proposed actions and alternatives associated with reasonably foreseeable future mission programs at DPG, identify and disclose potential impacts of these actions, and identify appropriate mitigation measures.

Currently there are no plans for DPG to obtain BL 4 capabilities. Unknown future programs or activities at DPG not assessed in the EIS would be "tiered" from this EIS to separate NEPA documentation.

Any evaluation of the potential need for BL 3 or 4 laboratory expansions or new constructions at other locations is beyond the scope of this EIS.

Comment 4-4. A question that I would like to have answered specific to the process with the Environmental Impact Statement before us is the tiering on specific projects that are envisioned in this seven year master plan if we can call it that. And that is should Dugway pursue the preferred alternative, constructing as many as seven separate new buildings, renovating as many as four additional existing buildings for purposes of biological and chemical defense testing?

Will there be a process for under an environmental assessment that the public can be involved in each specific new development proposed? What will be the decision making? Where is the cut line on whether an EA will be required or whether it will be considered under the rubric of this master plan to have already been approved and can be done without any additional public input?

Response 4-4. The implementation of the Summary Development Plan is included in this EIS. It is likely that mission activities could occur at DPG over the next 7 years that cannot be identified in this EIS. The approach to address these unknown components is that future programs or activities at DPG not assessed in the EIS will be "tiered" from this EIS to their own NEPA documentation. An acceptable NEPA practice, "tiering" uses specific program documentation to build upon environmental analysis presented in this EIS, to prepare a NEPA document that provides detailed environmental analysis for programs once they are better defined.

Comment 4-5. The question arises on specific tests that might take place in any one of these given facilities, new, old or currently existing, and that is whether there will be peer review, opportunities for the scientific and medical community around specific testing procedures, protocols, materials and whether there will be any oversight, not only from the state government, but the federal government? We witnessed a complete collapse in my estimation of state oversight under the Leavitt administration over the activities of the Dugway Proving Ground and how will the Dugway Proving Ground outreach to the state in order to assure the maximum protection of the public health.

Response 4-5. As described in Section 2.1.3.2, to ensure each test is properly planned and that potential environmental impacts are considered, test process planning and management is conducted by the West Desert Test Center, according to the Test Coordination and Conduct Manual.

Comment 4-6. I have only had a short opportunity to review the voluminous 1,000 page full EIS. And in it I find no accumulative active impact analysis. This is typical of most environmental impact statements produced by the military. I've read many and have sued over several. The question arises with the lack of accumulative impact analysis where does the impact come on the proposed wilderness area adjacent to the Dugway Proving Ground under the proposed amendment to Defense Appropriation Act by Congressman Hansen which would preclude presumably the construction of a rail line to the private fuel storage and nuclear waste facility. How does the PFS facility fit into the economics and sociology if nothing else, not to mention the environmental impact of the two proposals in conjunction?

The same questions could be leveled regarding the use of the Utah Test and Training Range and the Army's lease of facilities to the Air Force and in allowance of the Air Force to use the air space above its facility.

Response 4-6. An extensive analysis of potential cumulative impacts is included in Chapter 5, based on information available during this EIS process through March 2001. UTTR activities are described in Section 5.1.1 and PFS is described in Section 5.1.12. Impacts from these activities and other regional projects are described in Section 5.2.

Comment 4-7. A serious question arises in my mind regarding the potential for Dugway to contract with other agencies wishing to use the Dugway Proving Ground for their purposes. This is not an unusual occurrence at Dugway. Dugway has a long history of granting use permits long term and short term to other agencies. The Air Force being the most obvious example.

The question arises when other agencies funded by other departments in the federal government pursue the opportunity to build laboratories on the secured facilities and remote facilities of Dugway for biological level 3 or 4 laboratories. It's my understanding that there is at least one educational institution in this state that is now interested in contracting with Dugway for a biological level 4 laboratory.

Dugway states in its Environmental Impact Statement that it not intending as an Army agency to pursue a biological level 4 capability in the next seven years of its master plan. But what if other agencies wish to lease land at Dugway to do that, how does that fit into the environmental impact analysis that we have before us and what will be the policy decision surrounding that? And will there be an adequate public process to address the potential for contracting agencies escalating the mission of Dugway Proving Ground on a lease basis?

Response 4-7. Currently, there are no plans for a BL 4 facility at DPG. The EIS broadly assesses the potential environmental impacts of DPG mission activities and tenant activities which DPG exercises some reasonable control over, such as the Utah Army National Guard and other reserve components. Installation decisions including any mitigation measures identified within the EIS apply to both DPG and tenant activities. Tenant activities at DPG require NEPA documentation and approvals for the specific proposed actions.

Customer testing at DPG is coordinated through U.S. Army Developmental Test Command. U.S. Army Developmental Test Command test centers, including DPG, are not authorized to conduct tests without prior coordination with U.S. Developmental Test Command Headquarters in Aberdeen, MD.

Comment 4-8. Dugway Proving Ground beginning in my memory going to the mid to late 80's consistently denied that any of its biological defense activities involved the production, development or distribution of any pathogens beyond the borders of the Dugway Proving Grounds. That its role was simply to test agent against protective gear to perfect detection devises that might have battlefield utility and to determine methods for decontaminating equipment and personnel exposed to biological agent.

However, recent admissions by the Dugway Proving Ground reported widely in the national press state that in fact Dugway has produced and developed weaponized agent since at least 1992 and that those weaponized agents, anthrax in particular, have been sent back and forth between not only Dugway and its headquarter agency USAMRIID and Fort Detrick in Maryland, but has shared weaponized anthrax contractors such as Batell Corporation in Ohio.

There are questions whether any of that anthrax has gone to additional locations such as the University of New Mexico. And that there are counting discrepancies that have been revealed between the sharing of anthrax in either liquid or dry weaponized form between Dugway and Detrick.

The extraordinary concern we have and the public ought to have the question essentially comes down to where do the anthrax of post 9/11, fall 2001, come from and where was it weaponized. Pending further investigation by the FBI and other authority agencies that still remains a question, but all current publicly available information points to the United States Army, USAMRIID, Fort Detrick and Dugway.

That not only raises questions about the oversight and transparency which are entirely needed in this situation with the proving ground and its proposed development, but raises the question about the need for Dugway to weaponize pathogens in order to test them. Is it not possible for Dugway to fulfill it's mission to protect our military personnel by using simulant organisms rather than weaponized pathogens?

Response 4-8. As discussed in Section 2.1.5.1, DPG uses biological simulants instead of biological agents to the greatest extent possible, although biological agents within engineering controlled laboratory facilities often must be used to ensure that the defense systems perform as expected with the actual biological agents. Further questions should be addressed to the Department of Army Public Affairs Office, (703) 697-7592.

Comment 4-9. It leads to further questions given that Dugway has essentially mislead the public over the past 12, 13 years about weaponizing pathogens for testing purposes whether or not we can trust the Army and Dugway Proving Ground not to enter into the realm of genetically engineering micro-organisms, pathogens for additional experimentation.

Given Dugway's past track record dating to 1940's in which Dugway has released to the environment with an untold, undetermined impact upon the public health of people in the vicinity of more than 1,000 open air chemical weapon tests, many dozens of open air biological releases, radiological releases into the several dozens from tellerium to cobalt 60, whether or not we as a public can trust Dugway in light of the fact that this development follows so closely on the heals of serious questions of its participation in weaponizing anthrax that winds up in senators' offices.

How will in the end Dugway minimize the risk to the public health? It's more than simply a security concern. And there are certainly security concerns about the operation of the proving ground over the years. Additionally the impacts of proposed doubling of biological and chemical weapons defense programs at Dugway will have an impact beyond the boundaries and beyond Utah. There are impacts not analyzed in this EIS and perhaps outside the scope of it, but must be within the scope of the public discussion around this proposal, and that is what is the impact on the biological weapons convention.

The international agreements we have upon the discussion of improving the verification protocols which the United States essentially has walked away from for the time being and what will be the international perception of not only the

developments proposed under this EIS, but in the broader view the four plus agency development of BL 3 and 4 capacity around the country. The question arises whether this will be perceived as dual use technology and potential development of an offensive capability particularly in light of the proposed stockpiling of vaccines against potential biological agent use.

Response 4-9. Section 3.13.3.2 describes how biological agents are handled at DPG. Impacts of these activities are included as appropriate in Chapter 4 of the EIS.

The scope of the EIS is identified in Section 1.3, and the EIS presents an accurate disclosure of activities occurring at DPG, or proposed to occur at DPG in the future. DPG conducts all of its test activities in accordance with the International Convention on Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxic Weapons and the Chemical Weapons Convention which became enforceable under international law on April 29, 1997.

Comment 4-10. Lastly, I have looked at the DEIS sufficiently to determine that the counter terrorism programs proposed under this brand new mission for the proving ground which has been a minimal mission to date are too vaguely described to possibly evaluate. What is meant by this new counter terrorism mission that Dugway proposes? Without more specific information it's almost impossible to make any intelligible comments other than to say what are you planning to do here?

We have heard discussions going back to 1997 of potential use of Dugway Proving Ground for counter terrorism training involving such things as even building a subway in which to experiment with how to protect and respond and the rest, but there is no detail in the statement that would give anyone an opportunity to have any way in on it that makes any sense. So the Army really needs to come a little bit cleaner on what they're proposing here.

I realize that this is a master plan rather than a specific zoning and permitting kind of process, but please we really need more help to understand what it is the Army is contemplating.

Response 4-10. Currently the only counterterrorism program identified for DPG is counterterrorism training. No activities beyond those in Section 2.2.2.2 have been proposed. Future counterterrorism activities not identified in this EIS would require their own NEPA review process.

Comment 4-11. To conclude I would suggest that the Army consider a much higher degree of transparency in their programming than we have seen in the past. I

have been informed just as of this evening that the Army is willing to release a list of all the pathogens located in Pandora's Ice Box at the Lothar Salomon Life Sciences Test Facility. That is something we demanded more than a decade ago and were rebuffed.

Supposedly that has all been declassified and only five percent of the information on what pathogens get tested at Dugway are now available to the general public we have yet to see those. I remain skeptical until we do see a list. This is important to know what is in Pandora's Ice Box and what is contemplated to be stored there in the future given the doubling of mission because the public needs to be prepared to protect itself against the potential communicable diseases and/or other pathogens that could infect the population. And to date the only place in the United States where that has happened has been more than likely a direct result of problems within the USAMRIID command.

We need to be able to inform the medical community of what the potentials are for diseases they might encounter, where those might come from, what steps they must take in order to diagnosis and treat those potential diseases, whether they are a result of natural occurrences, accidents or mismanagement. The oversight then becomes much more critical and the need for Dugway to provide greater public information is essential. Transparency in this and in the international agreements that we hope will some day be approved so we can avoid the kinds of situations we're facing world wide now.

That's the goal we hope to achieve. If this EIS has any role in it then it would have been a useful exercise. That concludes my comments.

Response 4-11. A list of biological agents used from 1996 through 1998 at DPG are presented in Appendix C of the EIS. New materials could be required for testing purposes in the future as a result of national security concerns. The use of any new material at DPG must undergo an environmental review process. DPG has programs in place to safeguard occupational and public health and safety as described in Section 3.12.

Comment 5 – Environmental Health Committee, Utah Chapter of the Sierra Club

Comment 5-1. My name is Cindy King. I am representing the Environmental Health Committee, Utah Chapter of the Sierra Club. We are requesting that the public comment period be extended to December 2, 2002. The public notice lacked the required 15 day notice and did not inform the public where the Draft

Environmental Impact Statement could be obtained and/or reviewed. I have enclosed and have given a copy of the notice. The voluminous of the Draft Environmental Impact Statement, as implied in a recent article in the Tooele Transcript Bulletin, the public is not able to become educated to make necessary comments without this extension.

In 1990, the Secretary of Defense, who is now the Vice President of the United States, in a keynote addressed in Bethesda, Maryland at a conference called "Defense and the Environment" that the Department of Defense facilities will follow all federal, state and local environmental statutes and regulations (emphasis added). It should be noted that I am unable to find a reversal of this Secretary of Defense facilities to not comply with the various federal, state and local environmental statutes and regulations.

In 1998, the commanding officer of Dugway, Colonel John A. Como, along with various department heads, personally informed me that Dugway looks forward to a better relationship in meeting the concerns, needs and values that the public might have in regards to the operations at Dugway. Are we now making a liar of this command officer's commitment to the public? I find it very disturbing that Dugway exhibits arrogance in complying with the basic environmental statutes and regulations, in regard to the requirement of public participation.

The National Environmental Policy Act (NEPA) states in Section 2, the purposes of this chapter are to declare a national policy which will encourage a productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation.

Title 42, Section 6974, Subsection b(1) states, public participation in the development, revision, implementation and enforcement of any regulations, guidelines, information or program under this chapter shall be provided for, encouraged and assisted by the administrator and the states.

Congress often speaks about public participation in broad terms, affirming the importance of public participation in the public policy decision-making process. The information is to educate interested parties on the proposed action of the decision-maker. Public participation is two-way communication, with the overall goal of better decisions supported by the public.

I find it ironic that the public notice did not meet the 15 day required notification, nor were copies of the Draft Environmental Impact Statement where they could be obtained and/or viewed. The notice implied that public comments needed to be received on September 9, 2002, which is four days from when the public was notified. The notice does state that public comments would be received during the three public hearings, but the notice does not state if the public comments would be received after these public hearings.

This demonstrates how Dugway has ignored various studies of the National Research Council reports on the various Army's public relations, public outreach and public involvement efforts to avoid problems in public participation. The National Research Council defines public relations component consists of distributing information via mailed, brochures, libraries, radio broadcasts and other media in attempt to reach diverse stakeholders.

Public outreach, the second component, consists of opening channels of communication to the government agency so that the values, concerns and needs of various stakeholders can be heard.

Public involvement, the third and by far the most difficult component to establish, is a formal process that provides stakeholders an opportunity to influence decisions without surrounding the agency's legal mandate to make decisions.

The three components of the public affairs program must be closely coordinated. One Department of Army's public outreach and information office defined their mission as to provide a public involvement that supports meaningful public participation and dialogue. And the vision with management support and through a strategic public involvement program, the public office and information office will gain acceptance.

As mentioned earlier, the Secretary of Defense, in 1990, stated that the various Departments of Defense will comply with federal, state and local environmental statutes and regulations. It is not clear to the public how Dugway is complying with the Utah Statute Citing requirements as stated in Utah Code Annotated Title 19, Chapter 6, Section 108. It is not clear to the public how the most recently mentioned notice of violation stated in the Division of Solid and Hazardous Waste Control Board meeting regarding the Resource Conservation Recovery Act will affect or not affect the proposed action. To name a few of the violations, denying access to state enforcement officers and not allowing standards operations procedures, not following standard operational procedures and cleaning up and sampling equipment.

We realize that a facility of this type will have notices of violations throughout its operational life-span, but what we are questioning is what will be the effects or non-effects to the proposed action. The National Environmental Policy Act requires cooperation between governmental agencies.

In closing, the Utah Chapter of the Sierra Club is requesting the public comment period be extended to December 2, 2002 because of the basic violation of public notification, lacking the 15 day requirement and where the Draft Environmental Impact Statement could not be obtained or reviewed. The voluminous text of the Draft Environment Impact Statement as implied in a recent Tooele Transcript Bulletin article does not allow for the public to become educated on the proposed action, to determine the effects if could have to public health, welfare and the environment. It is not clear how the state statute mentioned is being applied to the proposed action for compliance.

Response 5-1. Public notification was given 15 days prior to the meetings. A printed flyer announcing the meetings was mailed to the parties on the distribution list on August 28, 2002. A subsequent flyer was mailed on September 9, 2002 announcing the meetings and informing the public of the locations of the public reading rooms. Advertisements for the public meetings were published three times in the Salt Lake City Tribune and the Deseret News and four times in the Tooele Transcript, first appearing on September 1, 2002. The first public meeting was held at DPG on September 17, 2002. Copies of either the Executive Summary of the full EIS had been mailed to the initial distribution list prior to public notification. Initially the comment period was to end on August 9, 2002. On July 26,2002 the comment period was extended to September 9, 2002. It was again extended until September 19, 2002 the last date of the public meetings. At the public meetings, the comment period was further extended until October 10, 2002. In an effort to accommodate one more time the comment period was extended until October 25, 2002. In an attempt to receive and take into consideration all comments without unduly delaying the process, no further extensions were given.

DPG has worked with the Division of Solid and Hazardous Waste to resolve all issues identified in notices of violation (NOVs) as they arise. The NOV mentioned in the comment will not affect the Proposed Action.

Comment 5-2. The proposed action seem to constitute the following general described areas: Continuation of baseline mission components; Diversification of Dugway Proving Ground Operations, which would include new types of testing, training and technology development activities and the implementation of an

Summary Development Plan. The discussion regarding Dugway's mission description states: "DPG does not conduct any nuclear testing and there are no plans to do so in the future." In another section which discusses Dugway's organization it states: "U.S. Army Development Test Command's mission is to support the materiel acquisition process for defense materiel by: Planning and conducting tests and simulations across the full spectrum of environments (arctic, tropic, desert, shock, vibration, electromagnetic, nuclear, underwater, live fire)…" It is not clear if the tenants of Dugway have to follow the Dugway's mission, which does not allow any nuclear testing currently and/or in the future, or if tenants will be allowed to follow their own missions independent of Dugway's mission?

Response 5-2. The EIS broadly assesses the potential environmental impacts of DPG mission activities and tenant activities which DPG exercises some reasonable control over, such as the Utah Army National Guard and other reserve components. Installation decisions including any mitigation measures identified within the EIS apply to both DPG and tenant activities. Tenant activities at DPG require NEPA documentation and approvals for the specific proposed actions.

Comment 5-3. There is discussion of Resource Conservation Recovery Act permits being a "functional equivalent" of National Environmental Policy Act of the Defense Environmental Restoration Programs and therefore are not open for comments under the National Environmental Policy Act review. I will concur with the analysis that Resource Conservation Act can be a "functional equivalent" of the National Environmental Policy Act, in so far as the Resource Conservation Recovery Act goes (e.g., in regards to the treatment, storage and/or disposal of solid and/or hazardous waste), but "functional equivalent" does not negate Dugway of other responsibilities of the National Environmental Policy Act.

Response 5-3. DPG agrees and has produced this EIS as part of its responsibilities of NEPA. Other environmental assessments and EISs will continue to be prepared, as required by NEPA, for future activities not covered by this EIS. Additionally, in February 2000, DPG established a Restoration Advisory Board for the Installation Restoration Program.

Comment 5-4. The implementation of the Summary Development Plan, stated to be part of report done by AGEISS and Higginbotham/Briggs and Associates (August 2000), states that there are deficiencies that will have to be addressed prior to this Draft Environmental Impact Statement to be used as a tool as implied.

Response 5-4. Activities described in the SDP as baseline deficiencies do not require NEPA documentation before they are performed.

Comment 5-5. The chapter regarding effects of the proposed action affected environment (chapter 3) is misleading in regards to the section discussing radioactive materials, being only in the Lothar Salomon life Science Test Facility. When discussing Dugway's operation it stated that Dugway does not conduct any nuclear testing and makes no plans to do so in the future. This section states that tracer materials will be used again in the future. This implies that some radioactive materials were use in the past. It also states that Dugway is responsible for maintaining a current Nuclear Regulatory Commission license to store and use radioactive materials. Nuclear material always has some radionuclides, which would imply radioactive.

Response 5-5. The Nuclear Regulatory Commission has determined that the use of radioactive tracer materials and radioactive components within equipment is not nuclear testing.

Comment 5-6. As vide, the "functional equivalence" of the Resource Conservation and Recovery Act, as implies in the discussion of the "Chemical Agent Waste Management Plan," is in the discussion related to chemical agent-related waste, as this section implies. There is some obfuscation of regulatory compliance regarding "functional equivalence" requirements. "Functional equivalence" means that it is equivalent to National Environmental Policy Act stated statutory requirements. In this instance there is questionable and/or possible obfuscation of "functional equivalence," as made by the following statement: "Chemical agent-related waste is not regulated by Federal RCRA requirements. However, the State of Utah regulates it as a hazardous waste." The federal Resource Conservation Recovery Act has "listed classes" and/or "types of wastes." For example: ignitable, corrosive, reactive, toxicity characteristic, acute and toxic, which is incorporated by reference into the State of Utah hazardous waste rules (40 CFR 261, appendix VII). By this definition, chemical agent waste has one or more of "listed classes " and/or "types of waste." Utah has been granted primacy from the U.S. Environmental Protection Agency, which means that Utah is responsible to regulate, enforce and comply with the federal Resource Conservation Recovery Act, as well as the State hazardous rules, in granting permits to facilities. Granted, the State of Utah has developed specific listed hazardous waste codes for non-specific sources as one of its authorized regulatory requirements of the Federal Resource Conservation Recovery Act, which has been incorporated be reference. The same goes for any residues from the demilitarization, treatment and testing of chemical agent.

The Division of Solid and Hazardous Waste, Department of Environmental Quality, State of Utah has developed an "unwritten" policy that allows for chemical agent residues to be treated and/or disposed as a solid waste. The Environmental Protection Agency has NOT APPROVED THIS POLICY. This means that the chemical agent residue maintains a "hazardous waste" status, just as the chemical agent has a "listed hazardous waste," under the Federal Resource Conservation Recovery Act, but not necessary State of Utah hazardous waste rules. Federal government statutes, regulations, etc. are supreme to that of States statutes, regulation, etc. This also means that there is no "functional equivalence" of the Resource Conservation and Recovery Act as implied by this section, and could also possibility allow for violation under the International Treaty.

Response 5-6. DPG concurs that treatment of solid and hazardous waste is covered by the State of Utah's hazardous waste rules. DPG knows of no unwritten policy that allows chemical agent residues to be treated as a solid waste. All decontaminated chemical agent residue at DPG is currently treated as a hazardous waste. DPG has appropriate permits from the Utah Division of Solid and Hazardous Waste.

Comment 5-7. In the discussion of alternatives there seems to be no distinction between the "no action" and actual alternatives. For example: the "no action" section discussion states that there would be no major changes in activity level and no new missions or new facilities. The only alternative actually given some analysis was "decreased mission alternative" which states that the scope of activities will be lessened similar to the "no action" alternative. Chemical and biological defense testing and training would continue, which is the same as the "no action alternative". All of the other alternatives mentioned were dismissed outright. In reality there was no analysis of alternatives as National Environmental Policy Act requires, in addition to the "no action" alternative.

Response 5-7. Section 2.3 describes the alternatives to the Proposed Action analyzed in the EIS. Table 2.3-1 demonstrates the quantitative evaluation for each alternative presented. Impact analysis of each alternative is discussed in Chapter 4.

Alternatives analysis for this EIS was extensive, and meets all procedural and substantive requirements of NEPA. As stated in the EIS text, the No Action Alternative is not a closing of the facility; rather it is a continuation of baseline activities. Since closure of DPG is not a realistic alternative based on current information, no alternative to close DPG is relevant to this EIS.

Comment 5-8. In discussion with "Outreach office" regarding O-ethyl-S-(2-diisopropylaminoethyl) methylphonothioate (VX) toxicity information. The "outreach office" never returned calls on how and/or if the information provided allowed for the "new" proposed standard, which is approximately 30 to 60 times higher than the current standard for toxicity purposes. The "outreach office" informed me that Dugway would use whatever the standard was at the "time." This could imply the current standard, or it could imply the "new" standard, but we are not sure which standard is to be used. The analysis given for relative toxicity would not allow for the window of toxicity for the "new" standard for the purpose doing analysis of environmental, and/or human health effects, for the purpose of determining if there are adverse impacts as required by National Environmental Policy Act. The "window" means what the governmental agency is using to determine an implied "acceptable risk" for exposure in relationship to long and short term effects to the environment and human health. The "Outreach office" had no understanding of the relationship between toxicity level and that of exposure levels. Ergo, the analysis of the affected environmental and human health problems is questionable. We do have information that other branches of the Department of Army will be using the "new" standard for toxicity of VX prior to exact approval. It is not clear if Dugway would be required to do so.

The analysis of exposure risk has not taken into consideration new data regarding the change in ideology of commutative effects in the relationship of chemical agent exposure and biological agents and/or pathogens. The new ideology of lower dose does not necessarily mean a safer than higher dose. Currently, the U.S. Environmental Protection Agency is investigating unexpected low dose effects. The National Environmental Policy Act requires interdisciplinary interaction between other governmental agencies.

Response 5-8. There is no analysis of a "safe level" exposure to chemical or biological agents in this EIS. As shown in Table 4.12-1, a review of literature demonstrated that catastrophic accidents might result in impacts outside the DPG boundary. Although the probability of such an accident is low, it is not zero nor would it ever reach zero.

Comment 5-9. There seem to be little data on the actual commitment of actual dollar amounts to the proposed action of "reasonable foreseeable" activities as of March 2001. There could be additional increase in the proposed action due to the terrorist act of September 11, 2001 which was not necessary part of the "reasonable foreseeable" of March 2001. It is possible that Dugway will be requested to assist in any anti-terrorist acts if necessary and/or any activities necessary to combat any

threat from chemical and/biological agent to military personnel and/or civilians. Actual dollar amounts might not be to be confirmed, but the National Environmental Policy Act does require approximation of actual dollar amounts. The possible of change in ideology in regards to unacceptable low level exposure risk might require an additional dollar cost for necessary protection of workers, civilians, and the environment if exposure does occurs from chemical and/or biological agents and/or pathogens.

Response 5-9. Currently unknown budget constraints could restrict or delay future activities described within this EIS.

Even with the events of September 11, 2001, this EIS still presents an accurate description of DPG's proposed activities and alternatives to the Proposed Action. Any future activities not identified and proposed in this EIS would require associated NEPA analysis and documentation.

Comment 6 – Certified Decontamination

Comment 6-1. Carbon fiber is a strong, lightweight material with many military and commercial uses. Dust is created by cutting carbon fiber when fabricating equipment. Carbon fiber dust may be harmful to humans in the same way as asbestos and can damage electronic equipment due to its conductivity. I recommend carbon fiber be added to the materials list located in Section 3.13.3 and pollution control measures added in the environmental impact statement.

Response 6-1. Carbon fiber is categorized as a smoke and obscurant in the EIS. Smokes, obscurants, and interferents are listed in Section 3.13.3 and are discussed in Section 3.13.3.11.

Comment 6-2. Mold is commonly found in homes, schools and office buildings after flooding. Improper building design also causes mold by not allowing the proper escape of airborne moisture. Certain strains of mold produce microtoxins which are carried in the air by spore. Health problems such as allergy symptoms, depression, pneumonia, birth defects, liver damage, heart disease and cancer are caused by over-exposure to the microtoxins of pathogenic mold. I recommend Dugway Proving Ground add pathogenic mold detection, prevention and remediation testing and training to their list of proposed activities.

Response 6-2. The Proposed Action includes only those proposed tests, training exercises, and technology development activities that are believed to be

"reasonably foreseeable" as of March 2001, and for which DPG is the proponent or has a high level of control. Any future activities that are implemented but not foreseen within the scope of this EIS would require appropriate NEPA review.

Comment 6-3. Throughout the United States, tens of thousands of clandestine methamphetamine labs are discovered each year. Methamphetamine, hydriodic acid, and a host of other chemical residues are left in homes, motel rooms, vehicles and other locations used for clandestine manufacturing. Methamphetamine has been found to damage serotonin and dopamine levels in the brain, destroy nerve ending receptors, damage vital organs including the heart, and cause birth defects and Parkinson's disease. Hydriodicacid (iodine) has been determined by the National Institute of Safety and Health (NIOSH) to cause damage to the central nervous system in concentrations of only two parts per million.

No definitive study has been completed regarding the decontamination of clandestine methamphetamine labs. If occupied dwellings are not adequately decontaminated, exposed persons may be harmed. If excessive decontamination efforts are required, property owners pay for unnecessary work and some property owners may seek measures to hide contamination rather than paying for remediation. I recommend Dugway Proving Ground add clandestine drug lab decontamination testing and training to their list of proposed activities.

Response 6-3. The Proposed Action includes only those proposed tests, training exercises, and technology development activities that are believed to be "reasonably foreseeable" as of March 2001, and for which DPG is the proponent or has a high level of control. Any future activities that are implemented but not foreseen within the scope of this EIS would require appropriate NEPA review.

Comment 6-4. In the late 1970's and early 1980's, under the direction of Captain David C. Venable and Lieutenant William A. A. Gawthrup, Dugway Proving Ground conducted counterterrorism and police tactical training for military and civilian police personnel. Military units trained by Dugway's program included the Utah National Guard, Hill Air Force Base, and installations within the Chemical Test and Evaluation Command. Dugway Proving Ground and Tooele Army Depot security personnel were the most active participants in the program.

Courses included Special Weapons and Tactics (SWAT), Hostage Negotiations, Critical Incident Management and Police Sniper/Countersniper. Tactical developments and training materials were shared with the Army, Military Police School and Air Force, Tactics for Emergency Service Teams school. For many Utah

police departments, training received at Dugway Proving Ground was the starting point for their SWAT and hostage negotiations teams. The location and facilities at Dugway Proving Ground were found to be ideal for this type of training.

Although Dugway Proving Ground does not maintain large amounts of chemical agents, large amounts of chemical agents are stored at the Tooele Army Depot, some twenty miles away. Having specialized counterterrorism and police tactical training at Dugway Proving Ground will greatly improve security and public protection. I strongly endorse counterterrorism and police tactical training be continued and expanded at Dugway Proving Ground.

Response 6-4. Comment acknowledged.

Comment 6-5. One item not addressed in the draft environmental impact statement is Security. It is reasonable to withhold security details from the environmental impact statement. Disclosing too many details may compromise security. Dugway Proving Ground's security model of restricted areas, controlled areas, access lists and exchange badges was copied by the Utah Department of Corrections for security at the Prison during executions. The same security model was used for security at the venues and housing areas of the Salt Lake Olympics.

Dugway Proving Ground's well proven security measures are regulated in great part by the U. S. Army Chemical Surety Program. Physical security, accountability and personnel reliability is managed by the program and annual qualification inspections and tests ensure strict adherence to the program's standards.

In some instances, the Chemical Surety Program requirements are so strict, materials commonly carried by unarmed, civilian drivers on America's highways are escorted by armed security forces and hazardous material handlers when under military control. I recommend a section be added to the environmental impact statement that states Dugway Proving Ground will adhere to the requirements of the U. S. Army Chemical Surety Program and annually disclose to the public the installation's passing or failing of Chemical Surety Program inspections and tests.

Response 6-5. Appendix A presents a list of environmental laws, permits, and management plans that are applicable to operations at DPG. Appendix A includes the Chemical Weapons and Material Chemical Surety Army Regulation 50-6 and Chemical Surety Program DPG Regulation 50-1. These regulations are also briefly described in Section 3.12.2.1, Occupational Health and Safety Requirements. DPG

will continue to adhere to the requirements of the U.S. Army Chemical Surety Program.

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